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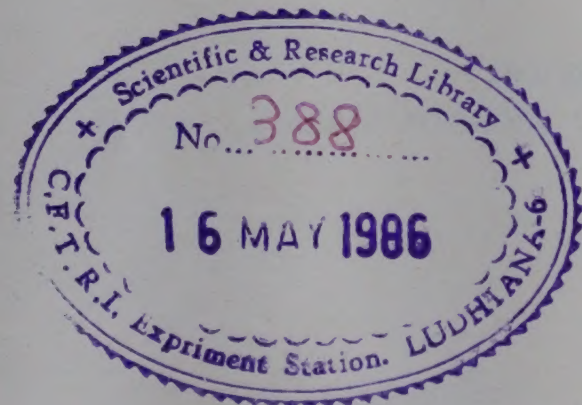
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PREFACE

INDIA 1981 is the twenty-seventh edition of the Reference Annual, compiled and edited by the Research and Reference Division of the Ministry of Information and Broadcasting. The Annual contains information on diverse aspects of our national life and activities, collected from official and other authentic sources. The book is an established work of reference but it does not claim to be comprehensive.

The publication is a rich source of material for research scholars, students, officials, journalists, academicians, professionals, etc. Each chapter is revised annually and (within the limits of space) every effort is made to provide information as fully and clearly as possible. However, in the nature of things, a Reference Annual, which takes about 12 months from collection of material to final printing, cannot be completely up-to-date.

The publication attempts to describe the machinery of government and other institutions which play a vital role in nation building activities and help transform the Indian traditional social life into a modern society. It documents the progress achieved in various spheres of activities such as education, health, social welfare, transport, communications, science and technology, rural reconstruction, labour, housing, industry, commerce, agriculture, power generation and other aspects of the national life.

Three maps—showing the main rail-links, national highways and important tourist centres and air-links—besides a political map and a few charts highlighting the achievements in the fields of industry, agriculture etc., have been included.

In the Appendices, personnel of the government at the Centre has been revised as on 10 August 1981. The 'Important Events' chapter covers developments from January to the end of December 1980.

Factual and statistical information given in the Annual is compiled with the cooperation of the central ministries, departments, state governments, union territories and other organisations.

For the convenience of readers seeking more details on specific topics, a bibliography is given at the end of the book.

The text generally covers information up to the end of March 1981. In some cases, however, changes that occurred later, are also incorporated.

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KEY TO NUMERATION

1 lakh	=	One hundred thousand
10 lakh	=	1 million
1 crore	=	10 million

India is the seventh largest country in the world. It is well-marked off from the rest of Asia by mountains and the sea, which give the country a distinct geographical unity. Bounded by the great Himalayas in the north, it stretches southwards and at the Tropic of Cancer, tapers off into the Indian Ocean between the Bay of Bengal on the east and the Arabian Sea on the west. It covers an area of 32,87,782¹ sq km.

Lying entirely in the northern hemisphere, the mainland extends, between latitudes 8°4' and 37°6' north and longitudes 68°7' and 97°25' east and measures about 3,214 km from north to south between the extreme latitudes and about 2,933 km from east to west between the extreme longitudes. It has a land frontier of about 15,200 km and a coast line of about 6,100 km.

PHYSICAL BACKGROUND

The Himalayas and other lofty mountains—Muztagh Ata, Aghil and Kunlun mountains to the north of Kashmir and south-eastern portion of Zaskar mountains to the east of Himachal Pradesh — form India's northern boundary, except in the Nepal region. She is adjoined in the north by China, Nepal and Bhutan. A series of mountain ranges in the east separate India from Burma. Also in the east, lies Bangladesh, bounded by the Indian States of West Bengal, Assam, Meghalaya, Tripura and Mizoram. In the north-west, Afghanistan and Pakistan border on India. South of the Tropic of Cancer, the country tapers off into the Indian Ocean between the Arabian Sea on the west and the Bay of Bengal on the east. The Gulf of Mannar and the Palk Strait separate India from Sri Lanka. The Andaman and Nicobar Islands in the Bay of Bengal and Lakshadweep in the Arabian Sea are parts of the territory of India.

Physical Features

The mainland comprises four well-defined regions, namely, the great mountain zone, plains of the Ganga and the Indus, the desert region and the Southern Peninsula.

The Himalayas comprise three almost parallel ranges interspersed with large plateaus and valleys some of which, like the Kashmir and Kulu Valleys, are fertile, extensive and of great scenic beauty. Some of the highest peaks in the world are found in these ranges. The high altitudes limit travel only to a few passes, notably the Jelep La and Nathu La on the main Indo-Tibet trade route through the Chumbi Valley, north-east of Darjeeling and Shipki La in Sutluj Valley north-east of Kalpa (Kinnaur). The mountain wall extends over a distance of about 2,400 km with a varying depth of 240 to 320 km. In the east, between India and Burma and India and Bangladesh, the hill ranges are much lower. The Garo, Khasi, Jaintia and Naga hills, running almost east-west, join the chain of the Mizo and Arakan hills running north-south.

Plains of the Ganga and the Indus, about 2,400 km long and 240 to 320 km broad, are formed by the basins of three distinct river systems, the Indus, the Ganga and the Brahmaputra. They are one of

¹ Provisional, as on 1 July 1971.

the world's greatest stretches of flat alluvium and also one of the most densely populated areas on earth. There is hardly any variation in relief. Between the Yamuna river at Delhi and the Bay of Bengal, nearly 1,600 km away, there is a drop of only 200 metres in elevation.

The desert region can be divided into two parts—the 'great desert' and the 'little desert'. The 'great desert' extends from the edge of the Rann of Kachchh beyond the Luni river northward. The whole of Rajasthan-Sind frontier runs through this. The 'little desert' extends from the Luni river between Jaisalmer and Jodhpur up to the northern wastes. Between the great and little desert lies a zone of absolutely sterile country, consisting of rocky land cut up by limestone ridges. Due to absence of surface water and very scanty rainfall the region is almost absolutely sterile.

The Peninsular plateau is marked off from the plains of the Ganga and the Indus by a mass of mountain and hill ranges varying from 460 to 1,220 metres in height. Prominent among these are the Aravalli, Vindhya, Satpura, Maikala and Ajanta. The Peninsula is flanked on one side by the Eastern Ghats, where the average elevation is about 610 metres, and on the other by the Western Ghats, where it is generally from 915 to 1,220 metres, rising in places to over 2,440 metres. Between the Western Ghats and the Arabian Sea lies a narrow coastal strip, while between the Eastern Ghats and the Bay of Bengal there is a broader coastal area. The southern point of the plateau is formed by the Nilgiri hills where the Eastern and Western Ghats meet. The Cardamom hills lying beyond may be regarded as a continuation of the Western Ghats.

Geological Structure

The geological regions broadly follow the physical features and may be grouped into three well-defined regions: the Himalayas and their associated group of mountains, the Indo-Gangetic plains and the ancient Peninsular Shield.

The Himalayan mountain belt to the north and the Naga-Lushai mountains in the east are regions of mountain building movement. Much of the area, now presenting some of the most magnificent mountain scenery in the world, was under marine conditions over a period of about 60 crore years. In a series of mountain building movements, commencing about seven crore years ago, the sediments and the basements of rocks in various configurations rose to great heights. The elements worked on these to produce the relief seen today.

The Indo-Gangetic plains are a great alluvial tract that separate the Himalayas from the Peninsula to the south. The deposits of the tract belong to the latest chapter of the earth's history and conceal beneath them the southern fringes of the Himalayan formations and the northern fringes of the Peninsular formations. The thickness of the sedimentary cover in this tract exceeds 6,000 metres at places.

The Peninsula is a region of relative stability and rare seismic disturbances. Highly metamorphosed rocks of the earliest periods occur over more than half of its area the rest being covered by the coal bearing Gondwana formations, and later sediments and lava flows belonging to the Deccan Trap formation.

River Systems

The rivers in India may be classified as : (i) Himalayan rivers, (ii) Deccan rivers, (iii) coastal rivers, and (iv) rivers of the inland drainage basin.

The Himalayan rivers are generally snow-fed and have, therefore, continuous flow throughout the year. During the monsoon months, the Himalayas receive very heavy rainfall and the rivers discharge the maximum amount of water causing frequent floods. The Deccan rivers are generally rain-fed and, therefore, fluctuate in volume. A large number of streams are non-perennial. The coastal streams, specially of the west coast, are short in length and have limited catchment areas. Most of them are non-perennial. The streams of the inland drainage basin of western Rajasthan are few and far between. Most of them are of an ephemeral character. They drain towards the individual basins or salt lakes like the Sambhar or are lost in the sands, having no outlet to the sea. The Luni is the only river of this category that drains into the Rann of Kachchh.

The Ganga basin is the largest in India receiving waters from an area which comprises about one-quarter of the total area of the country. Its boundaries are well defined by the Himalayas in the north and the Vindhya mountains in the south. The Ganga has two main headwaters in the Himalayas : the Bhagirathi and the Alaknanda, the former rising from the Gangotri glacier at Gaumukh and the latter from a glacial snout of the Alakapuri glacier. The Ganga is joined by a number of Himalayan rivers including the Yamuna, Ghaghra, Gandak and Kosi. The western-most river of the Ganga system is the Yamuna, which rises in the Yamnotri glacier and joins the Ganga at Allahabad. Among the rivers flowing north from central India into the Yamuna or the Ganga, are the Chambal, Betwa and Sone.

The second largest river basin in India is that of the Godavari. It covers an area which comprises about 10 per cent of the total area of India. The Krishna basin is the second largest in Peninsular India. The Mahanadi flows through the third largest basin in the Peninsula. The basins of the Narmada in the uplands of the Deccan and of the Cauvery in the far south are of about the same size, though of different character and shape.

Two other river systems, which are small but agriculturally important, are those of the Tapi in the north and the Penner in the south.

The climate of India may be broadly described as tropical monsoon type. There are four seasons in India : (i) winter season (January-February); (ii) hot weather season, summer (March-May); (iii) rainy season, south-western monsoon period (June-September); and (iv) post-monsoon period, known also as north-east monsoon period in the southern Peninsula (October-December).

In India, rainfall is erratic and ill-distributed. It varies from place to place and year to year. However, there are four broad climatic regions based on rainfall. Practically the whole of Assam and its neighbourhood, the Western Ghats and the adjoining coastal strip and parts of the Himalayas are areas of very heavy rainfall with more than 2,000 mm of annual rainfall. Some places in the Khasi and Jaintia hills of Meghalaya receive the heaviest rainfall in the world. Cherrapunji gets 11,419 mm of annual rainfall, the highest in the country. In contrast, Rajasthan, Kachchh and the high Ladakh plateau of Kashmir extending westward to Gilgit are regions of low precipitation. They have a yearly rainfall of between 100 and 500 mm. Between these rainfall extremes, there are two areas of moderately

high and low rainfall ranging from 1,000 to 2,000 mm and 500 to 1,000 mm. The former is a broad belt in the eastern part of the Peninsula, extending northward to the north India plains and the latter runs from the Punjab plains across the Vindhya mountains into the western part of the Deccan, extending further south and east to Karnataka and Andhra Pradesh.

While the rainy season in most parts of the country is from June to September, in Tamil Nadu it is during October-December.

Fauna

Possessing a tremendous diversity of climate and physical conditions, India has a great variety of fauna. There are about 500 species of mammals and 2,100 species of birds in the country. There also exist more than 30,000 different species of insects, apart from a great variety of fishes and reptiles.

The mammals include elephant, associated in India from time immemorial with mythology and the splendour of her regal pageantry, the gaur or Indian bison (the wild buffalo) and the great Indian rhinoceros, now confined to Assam and West Bengal. There are also several deer species like the rare Kashmir stag, swamp deer, the beautiful spotted deer, the unique musk deer, the brow-antlered deer (Thamin), now found in Manipur only, the tiny mouse deer, the Nilgai, the Chousingha (the four-horned antelope), the only four-horned creature in the world, and the Indian antelope or black buck.

Among the animals of prey are the Indian lion, the only lion to be found in the world outside Africa. The tiger, which is the national animal, numbers more than 2,500. The general decline in its number in recent years has led to the launching of 'Project Tiger', a scheme financed by the Government of India to safeguard the tiger, its prey and its habitat, in eleven selected areas. Among other cats are the leopard, clouded leopard, the snow-leopard and various species of smaller cats.

Several species of monkeys and langurs are common. The only ape found in India, the hoolock, is confined to the rain forests of the eastern region. The lion-tailed macaque, with a halo hair around the face is found in the south.

Bird life in India is very rich and colourful. The peacock is the national bird. Several other birds like the pheasants, geese, ducks, mynahs, parakeets, pigeons, cranes, hornbills and sunbirds inhabit the forests and wet lands.

The rivers and lakes harbour crocodiles and gharials, the latter being the only representative of a crocodilian order in the world. A project for breeding crocodiles with UNDP assistance, started in 1974, has been instrumental in saving the crocodile from extinction and increasing their population to about 3,000. Twelve schemes are in operation in different states for breeding of crocodiles and releasing them in the wild.

The great Himalayan range has a very interesting fauna and include wild sheep and goats, the markhor, the ibex, the serow and the takin. The lesser panda and the snow-leopard are also to be found in the upper reaches of the mountains.

The Wild Life (Protection) Act, 1972, adopted by most of the states, governs the wild life conservation and protection of endangered species both inside and outside forest areas. Under this Act, trade in rare and endangered species has been banned and further restriction

have been imposed on the export of a number of animals and birds and their products.

India is also a signatory to the Convention on International Trade in Endangered Species of Wild Flora and Fauna. Under this, export or import of endangered species of fauna and flora are subject to strict control and commercial exploitation of such species is prohibited.

There are at present 20 national parks, 197 wild life sanctuaries and 24 zoological gardens in the country. State governments are given financial aid for improvement and development of national parks and sanctuaries.

Flora

India with its wide range of climatic conditions—from the torrid to the arctic—has a rich and varied vegetation, which few other countries of comparable size possess. India can be divided into eight distinct floristic regions, namely, Western Himalayas, Eastern Himalayas, Assam, Indus Plain, Gangetic Plain, Deccan, Malabar and Andamans.

The Western Himalayan region extends from Kashmir to Kumaon. The temperate zone of the region is rich in forests of chirpine, other conifers and broad-leaved temperate trees. Higher up, forests of deodar, blue pine, spruce and silver fir occur. The alpine zone extends from the upper limit of the temperate zone to about 4,750 metres or even higher. The characteristic trees of this zone are the high level silver fir, silver birch and junipers.

The Eastern Himalayan region extends from Sikkim eastwards and embraces Darjeeling, Kurseong and the adjacent tract. The temperate zone of the region has forests of oaks, laurels, maples, rhododendrons, alder and birch; many conifers, junipers and dwarf willows also occur. The Assam region comprises the Brahmaputra and Surma Valleys and the intervening hill ranges. The vegetation is luxuriant with evergreen forests, occasional thick clumps of bamboos and tall grasses.

The Indus Plain region comprises the plains of Punjab, western Rajasthan and northern Gujarat. This region is dry and hot and supports scanty natural vegetation.

The Gangetic Plain region covers the area from Aravalli ranges to Bengal and Orissa. A greater part of the area is alluvial plain and is under cultivation for wheat, sugarcane and rice. Only small areas support forests of widely differing types.

The Deccan region comprises the entire tableland of the Indian Peninsula, and supports vegetation of various kinds from scrub jungles to mixed deciduous forests.

The Malabar region covers the excessively humid belt of mountain country running parallel to the west coast of the Peninsula. This region, besides being rich in forest vegetation, produces important commercial crops, such as, coconut, betelnut, pepper, coffee and tea. Also rubber, cashewnut and eucalyptus have been successfully introduced in some parts of this region.

The Andaman region comprises the Andaman and Nicobar group of islands. It abounds in evergreen, semi-evergreen, mangrove, beach and diluvial forests.

The Himalayas (from Kashmir to Arunachal Pradesh through Nepal, Sikkim and Bhutan), Meghalaya, Nagaland and the Deccan

Peninsula are rich in endemic flora, i.e., a large number of plants found in these regions, originated three million years ago, are still restricted to these endemic centres and are not found elsewhere in the world except as introductions.

The interesting and useful flora of the country is being studied in detail by Botanists of the Botanical Survey of India (BSI) and some other institutions. The publication of a new *Flora of India* in the form of fascicles has been initiated by BSI and three fascicles have so far been published.

Because of the destruction of forests for agricultural, industrial and urban development, several Indian plants are facing extinction. Samples of some of these rare plants are being preserved in botanical gardens and national parks. Collections of dried samples of these plants are preserved in the Central National Herbarium, Calcutta, the regional herbaria of the Botanical Survey of India and in other research and teaching institutions of the country.

DEMOGRAPHIC BACKGROUND

Census

The first all India census, though not synchronously taken, was completed in 1872. Since 1881, the census in India has been taken regularly every ten years. The latest in 1981 marked the completion of 110 years of decennial census taking in the country. The enumeration was conducted between 9 February 1981 and 5 March 1981 (with reference date as the sunrise of 1 March 1981) except certain areas. The highlights of the 1981 census are given at the end of the chapter.

Total Population

According to the 1981 census, the total population of India was 68,38,10,051. As compared to the 1971 census, it showed an increase of 24.75 per cent. The main cause of this increase in population is the fall in the death rate brought about by better health conditions, effective control of epidemics, efficient handling of famine conditions and general improvement and economic development. The population has gone up despite a small fall in the birth rate. Table 1.1 shows population growth since 1901.

Population as on 1 March 1981

The population of India as on 1 March 1981 was 68.38 crores. The population of various states was as follows (figures in crores) Andhra Pradesh 5.34, Assam 1.99, Bihar 6.98, Gujarat 3.39, Haryana 1.28, Himachal Pradesh, 0.42, Jammu and Kashmir 0.59, Karnataka 3.70, Kerala 2.54, Madhya Pradesh 5.21, Maharashtra 6.26, Manipur 0.14, Meghalaya 0.13, Nagaland 0.07, Orissa 2.62, Punjab 1.66, Rajasthan 3.41, Sikkim 0.03, Tamil Nadu 4.82, Tripura 0.20, Uttar Pradesh 11.0, West Bengal 5.44, Andaman and Nicobar Islands 0.01, Arunachal Pradesh 0.06, Chandigarh 0.04, Dadra and Nagar Haveli 0.01, Delhi 0.6, Goa, Daman and Diu 0.1, Lakshadweep 0.004, Mizoram 0.04, Pondicherry 0.06.

Density

The average density of population per square km in 1981 was 221. It varied considerably from state to state, being as high as 654 in Kerala and as low as 44 in Sikkim and 7 in Arunachal Pradesh. The area, population and density in various states and Union Territories is shown in table 1.2.

Sex ratio

According to the 1981 census there are 35.3 crore males and 33.0

TABLE 1.1
GROWTH OF POPULATION (1911—1981)

State/Union Territory	1911	1921	1931	1941	1951	1961	1971	1981 ¹
INDIA	25,20,93,390	25,13,21,213	27,89,77,238	31,86,60,580	36,10,88,090	43,92,34,771	54,81,59,652	68,38,10,051
<i>States</i>								
Andhra Pradesh	2,14,47,412	2,14,20,448	2,42,03,573	2,72,89,340	3,11,15,259	3,59,83,447	4,35,02,708	5,34,03,619
Assam	38,48,617	46,36,980	55,60,371	66,94,790	80,28,856	1,08,37,329	1,46,25,152	1,99,02,826 ⁴
Bihar	2,83,14,281	2,81,26,675	3,13,47,108	3,51,70,840	3,87,82,271	4,64,47,457	5,63,53,369	6,98,23,154
Gujarat	98,03,587	1,01,74,989	1,14,89,828	1,37,01,551	1,62,62,657	2,06,33,350	2,66,97,475	3,39,60,905
Haryana	41,74,690	42,55,905	45,59,931	52,72,845	56,73,614	75,90,543	1,00,36,808	1,28,50,902
Himachal Pradesh	18,96,944	19,28,206	20,29,113	22,63,245	23,85,981	28,12,463	34,60,434	42,37,569
Jammu & Kashmir ²	22,92,535	24,24,359	26,70,208	29,46,728	32,53,852	35,60,976	46,16,632	59,81,600 ⁴
Karnataka	1,35,25,251	1,33,77,599	1,46,32,992	1,62,55,368	1,94,01,956	2,35,86,772	2,92,99,014	3,70,43,451
Kerala	71,47,673	78,02,127	95,07,050	1,10,31,541	1,35,49,118	1,69,03,715	2,13,47,375	2,54,03,217
Madhya Pradesh	1,94,40,965	1,91,71,750	2,13,55,657	2,39,90,608	2,60,71,637	3,23,72,408	4,16,54,119	5,21,31,717
Maharashtra	2,14,74,523	2,08,49,666	2,39,59,300	2,68,32,758	3,20,02,564	3,95,53,718	5,04,12,235	6,26,93,898
Manipur	3,46,222	3,84,016	4,45,606	5,12,069	5,77,635	7,80,037	10,72,753	14,33,691
Meghalaya	3,94,005	4,22,403	4,80,837	5,55,820	6,05,674	7,69,380	10,11,699	13,27,874
Nagaland	1,49,038	1,58,801	1,78,844	1,89,641	2,12,975	3,69,200	5,16,449	7,73,281
Orissa	1,13,78,875	1,11,58,586	1,24,91,056	1,37,67,988	1,46,45,946	1,75,48,846	2,19,44,615	2,62,72,054
Punjab	67,31,510	71,52,811	80,12,325	96,00,236	91,60,500	1,11,35,069	1,35,51,060	1,66,69,755
Rajasthan	1,09,83,509	1,02,92,648	1,17,47,974	1,38,63,859	1,59,70,774	2,01,55,602	2,57,65,806	3,41,02,912
Sikkim	87,920	81,721	1,09,808	1,21,520	1,37,725	1,62,189	2,09,843	3,15,682
Tamil Nadu	2,09,02,616	2,16,28,518	2,34,72,099	2,62,67,507	3,01,19,047	3,36,86,953	4,11,99,168	4,82,97,456
Tripura	2,29,613	3,04,437	3,82,450	5,13,010	6,39,029	11,42,005	15,56,342	20,60,189
Uttar Pradesh	4,81,54,908	4,66,72,398	4,97,79,538	5,65,35,154	6,32,19,655	7,37,54,554	8,83,41,144	11,08,58,019
West Bengal	1,79,98,769	1,74,74,348	1,88,97,036	2,32,29,552	2,62,99,980	3,49,26,279	4,43,12,011	5,44,85,560
<i>Union Territories³</i>								
Andaman and Nicobar Islands	26,459	27,086	29,463	33,768	30,971	63,548	1,15,133	1,88,254
Arunachal Pradesh	18,437	18,133	19,783	22,574	—	3,36,558	4,67,511	6,28,050
Chandigarh	29,020	31,048	38,260	40,441	24,261	1,19,881	2,57,251	4,50,061
Dadra and Nagar Haveli	4,13,851	4,88,452	6,36,246	9,17,939	41,532	57,963	74,170	1,03,677
Delhi	5,19,222	5,00,904	5,41,710	5,83,736	17,44,072	26,58,612	40,65,698	61,96,414
Goa, Daman and Diu	14,555	13,637	16,040	18,355	5,96,059	6,26,667	8,57,771	10,82,117
Lakshadweep	91,204	98,406	1,24,404	1,52,786	21,035	24,108	31,810	40,237
Mizoram	2,57,179	2,44,156	2,58,628	2,85,011	1,96,202	2,66,063	3,32,390	4,87,774
Pondicherry	—	—	—	—	3,17,253	3,69,079	4,71,707	6,04,136

¹Provisional

²The population of Jammu and Kashmir for 1951 has been taken to be the arithmetic mean of 1941 and 1961 population. The population of the state for 1941 and earlier censuses has been adjusted to exclude that of areas currently under the illegal occupation of Pakistan and China. Later figures exclude the population of such areas.

³Population figures for Goa, Daman and Diu, and Dadra and Nagar Haveli for 1911, 1941 and 1951 have been assumed to be the same as in 1900, 1910, 1940 and 1950 respectively. Similarly, figures for Pondicherry for 1951 have been assumed to be the same as in 1948. The 1961 figures for Goa, Daman and Diu relate to the census taken by the Portuguese authorities with reference date as 15 December 1960; figures for Dadra and Nagar Haveli relate to 1962 census with reference date as 1 March 1962.

⁴Projected figures for 1981.

TABLE 1.2
AREA AND
DENSITY OF
POPULATION

State/Union Territory	Area (sq km) ²	Population ¹ 1981	Density of population per sq km
INDIA	32,87,782 ⁵	68,38,10,051	221 ³
<i>States</i>			
Andhra Pradesh	2,75,814	5,34,03,619	194
Assam ⁴	78,523	1,99,02,826	254
Bihar	1,73,876	6,98,23,154	402
Gujarat	1,95,984	3,39,60,905	173
Haryana	44,222	1,28,50,902	291
Himachal Pradesh	55,673	42,37,569	76
Jammu and Kashmir ⁴	2,22,236 ⁵	59,81,600	NA
Karnataka	1,91,773	3,70,43,451	193
Kerala	38,864	2,54,03,217	654
Madhya Pradesh	4,42,841	5,21,31,717	118
Maharashtra	3,07,762	6,26,93,898	204
Manipur	22,356	14,33,691	64
Meghalaya	22,489	13,27,874	59
Nagaland	16,527	7,73,281	47
Orissa	1,55,782	2,62,72,054	169
Punjab	50,362	1,66,69,755	331
Rajasthan	3,42,214	3,41,02,912	100
Sikkim	7,299	3,15,682	44
Tamil Nadu	1,30,069	4,82,97,456	371
Tripura	10,477	20,60,189	196
Uttar Pradesh	2,94,413	11,08,58,019	377
West Bengal	87,853	5,44,85,560	614
<i>Union Territories</i>			
Andaman and Nicobar Islands	8,293 ⁶	1,88,254	23
Arunachal Pradesh	83,578	6,28,050	7
Chandigarh	114	4,50,061	3,948
Dadra and Nagar Haveli	491	1,03,677	211
Delhi	1,485	61,96,414	4,178
Goa, Daman and Diu	3,813	10,82,117	284
Lakshadweep	32	40,237	1,257
Mizoram	21,087	4,87,774	23
Pondicherry	480	6,04,136	1,228

¹Provisional.

²Provisional, as on 1 July 1971.

³While working out the density of population of India, Jammu & Kashmir has been excluded, as comparable figures of area and population are not available.

⁴Projected figures for 1981.

⁵Includes area under illegal occupation of Pakistan and China.

⁶As on January 1966.

N.A.—Not available.

The density of population and the percentage increase of population between 1921 and 1981 are as follows :

TABLE 1.3
DENSITY AND
INCREASE OF
POPULATION

Year	Density per sq km	Decade	Percentage increase in population
1921	81		
1931	90	1921-31	11.0
1941	103	1931-41	14.2
1951	117	1941-51	13.3
1961	142	1951-61	21.5
1971	177	1961-71	24.8
1981 ¹	221	1971-81	24.7

Note:—Density worked out after excluding the population and area figures of Jammu and Kashmir.

¹Provisional.

crore females. Thus for every 1,000 males, India has 935 females, the number declining from 972 in 1901 to 950 in 1931. Only Kerala has more women than men that is 1,034 per thousand. The lowest female ratio among the states is in Sikkim, that is, 836 per thousand and the lowest female ratio among the Union Territories is in Andaman and Nicobar Islands where it is 761.

Literacy

One of the important characteristics on which information is obtained in the census is literacy. For the purpose of the census, a person is deemed as literate if he or she can read and write with understanding in any language. A person who can merely read but cannot write is not defined as literate. Children below five years of age were treated as illiterate.

Literacy rates would be more meaningful if one were to exclude the population in the age group 0-4 from total population. However, at this stage, this information is not available since it would only be generated through further tabulations. Therefore, the entire population is being taken into account including the population in the age group 0.14. The provisional population table 6 presents the literacy rates in the country and in the states and union territories. The table below presents the figures for the country at each census year. In working out these rates for 1981, the population of Assam and Jammu and Kashmir have been excluded as the census has not yet been taken there. The rates upto 1941 are for undivided India.

TABLE 1.4
PERCENTAGE OF
LITERACY
1901—1981

Year	Persons	Males	Females
1901	5.35	9.83	0.60
1911	5.92	10.56	1.05
1921	7.16	12.21	1.81
1931	9.50	15.59	2.93
1941	16.10	24.90	7.30
1951	16.67	24.95	7.93
1961	24.02	24.44	12.95
1971	29.45	39.45	18.69
1981	36.17	46.74	24.88

TABLE 1.5
LITERACY RATE PER
1,000 IN INDIA BY
SEX

Census Year	Males	Females	Persons
1901	98	6	53
1911	106	11	59
1921	122	18	72
1931	156	29	95
1941	249	73	161
1951	249	79	167
1961	344	130	240
1971	395	187	294
1981	467	249	362

TABLE 1-6
POPULATION AND NUMBER OF LITERATES 1981 AND LITERACY RATE FOR 1981 BY SEX

India/State/Union Territory	Total population 1981						Literate population 1981						Percentage of literates to total population	
	Males			Females			Males			Females			Persons	8
	2	3	4	5	6	7	8	9	10	11	12	13		
INDIA :	68,38,10,051	35,33,47,249	33,04,62,802	23,79,91,932	15,88,37,215	7,91,54,717	36,171	46,741	24,881					
<i>States</i>														
Andhra Pradesh .	5,34,03,619	2,70,35,531	2,63,68,088	1,59,89,266	1,05,78,388	54,10,878	29.94	39.13	20.52					
Assam .	1,99,02,826	1,04,72,712	94,30,114	1,91,63,410	1,35,51,736	46,11,674	26.01	37.78	13.58					
Bihar .	6,98,23,154	3,58,65,467	3,39,57,687	1,48,58,075	95,34,470	53,23,605	43.75	54.53	32.31					
Gujarat .	3,39,60,905	1,74,84,540	1,64,76,365	46,05,649	32,71,047	13,34,602	35.84	47.78	22.23					
Haryana .	1,28,50,902	68,46,153	60,04,749	17,77,201	11,15,973	6,61,228	41.94	52.36	31.39					
Himachal Pradesh .	42,37,569	21,31,312	21,06,257											
Jammu & Kashmir .	59,81,600	30,62,200	29,19,400											
Karnataka .	3,70,43,451	1,88,69,494	1,81,73,957	1,42,28,947	91,71,677	50,57,270	38.41	48.61	27.83					
Kerala .	2,54,03,217	1,24,87,961	1,29,15,256	1,75,71,819	92,44,609	83,27,210	69.17	74.03	64.48					
Madhya Pradesh .	5,21,31,717	2,68,56,752	2,52,74,965	1,45,02,063	1,05,74,919	39,27,144	27.82	39.39	15.54					
Maharashtra .	6,26,93,898	3,23,41,115	3,03,52,783	2,96,95,721	1,90,46,963	10,6,48,758	47.37	58.89	35.08					
Manipur .	14,33,691	7,27,108	7,06,583	6,01,943	3,85,123	2,16,820	41.99	52.97	30.69					
Meghalaya .	13,27,874	6,78,883	6,48,991	4,41,077	2,51,056	1,90,021	33.22	36.98	29.28					
Nagaland .	7,73,281	4,14,231	3,59,050	3,24,700	2,03,643	1,21,057	41.99	49.16	33.72					
Orissa .	2,62,72,054	1,32,53,523	1,30,18,531	89,64,625	62,16,037	27,48,588	34.12	46.90	21.11					
Punjab .	1,66,69,755	88,40,234	78,29,521	67,91,547	41,18,415	26,73,132	40.74	46.59	34.14					
Rajasthan .	3,41,02,912	1,77,49,282	1,63,53,630	82,01,615	63,50,945	18,50,670	24.05	35.78	11.32					
Sikkim .	3,15,682	1,71,959	1,43,723	1,06,780	75,066	31,714	33.83	43.65	22.07					
Tamil Nadu .	4,82,97,456	2,44,20,228	2,38,77,228	2,21,11,593	1,39,65,132	81,46,461	45.78	57.19	34.12					
Tripura .	20,60,189	10,57,714	10,02,475	8,56,688	5,39,932	3,16,756	41.58	51.05	31.60					
Uttar Pradesh .	11,08,58,019	5,87,80,640	5,20,77,379	3,03,58,013	2,28,45,887	75,12,126	27.38	38.87	14.42					
West Bengal .	5,44,85,560	2,85,05,151	2,59,80,409	2,22,71,867	1,43,91,808	78,80,059	40.88	50.49	30.33					
<i>Union Territories</i>														
Andaman and Nicobar Islands .	1,88,254	1,06,889	81,365	96,520	62,470	34,050	51.27	58.44	41.85					
Arunachal Pradesh .	6,28,050	3,35,941	2,92,109	1,26,185	94,002	32,183	20.09	27.98	11.02					
Chandigarh .	4,50,061	2,54,208	1,95,853	2,91,091	1,74,953	1,16,138	64.68	68.82	59.30					
Dadra & Nagar Haveli .	1,03,677	52,514	51,163	27,578	19,007	8,571	26.60	36.19	16.75					
Delhi .	61,96,414	34,22,550	27,73,864	38,83,611	23,25,804	14,57,807	61.06	67.96	52.56					
Goa, Daman & Diu .	10,82,117	5,46,260	5,35,857	6,04,489	3,53,832	2,50,657	55.86	64.77	46.78					
Lakshadweep .	40,237	20,367	19,870	22,108	13,233	8,785	54.72	64.97	44.21					
Mizoram .	4,87,774	2,51,988	2,35,786	2,90,241	1,66,296	1,23,945	59.50	65.99	52.57					
Pondicherry .	6,04,136	3,04,342	2,99,794	3,27,600	1,94,792	1,32,808	54.23	64.00	44.30					

¹Excludes Assam and Jammu and Kashmir.

The steady improvement in the proportion of literates among both males and females would be apparent from this statement. In particular, the improvement in the case of females is noteworthy. However, it would be noticed from the statement that nearly half the males and nearly three-fourths of the females in the country are still illiterate. In the total population, nearly 64 per cent of the people are still illiterate.

Languages

A number of languages and dialects are spoken in India. Of these, 15 languages have been specified in the Eighth Schedule of the Constitution. There are : Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri, Malayalam, Marathi, Oriya, Punjabi, Sanskrit, Sindhi, Tamil, Telugu and Urdu.

1981 CENSUS¹ HIGHLIGHTS

Population of India	.	.	.	.	Total	68,38,10,051
					Males	35,33,47,249
					Females	33,04,62,802
Decennial population growth 1971-81	.					
(1) Absolute	.	.	.	.		13,56,50,399
(2) Percentage	.	.	.	.		24.75
Density of population	.	.	.	.		221 per sq km
Sex ratio	.	.	.	.	935 females per	1,000 males
Literacy rate	.	.	.	.	Total	36.17 percent
					Males	46.74 per cent
					Females	24.88 per cent

¹Provisional.

Note:— (i) While working out the density, the area and population of Jammu and Kashmir have been excluded as comparable data are not available.

(ii) Literacy rates exclude data of Assam and Jammu and Kashmir.

NATIONAL
FLAG

The National Flag is a horizontal tricolour of deep saffron (kesari) at the top, white in the middle and dark green at the bottom in equal proportion. The ratio of the width of the Flag to its length is two to three. In the centre of the white band is a wheel, in navy blue which represents the *Charkha*. Its design is that of the wheel (*Chakra*) which appears on the abacus of the Sarnath Lion Capital of Asoka. Its diameter approximates to the width of the white band and it has 24 spokes.

The design of the National Flag was adopted by the Constituent Assembly of India on 22 July 1947. Its use and display are regulated by a code.

STATE
EMBLEM

The State Emblem of India is an adaptation from the Sarnath Lion Capital of Asoka as preserved in the Sarnath museum. In the original, there are four lions, standing back to back, mounted on an abacus with a frieze carrying sculptures in high relief of an elephant, a galloping horse, a bull and a lion separated by intervening wheels (*Chakras*) over a bell-shaped lotus. Carved out of a single block of polished sandstone the Capital is crowned by the Wheel of the Law (*Dharma Chakra*).

In the State Emblem adopted by the Government of India on 26 January 1950, only three lions are visible, the fourth being hidden from view. The wheel appears in relief in the centre of the abacus with a bull on the right and a horse on the left and the outlines of the other wheels on the extreme right and left. The bell-shaped lotus has been omitted. The words, *Satyameva jayate*, from the *Mundaka Upanishad* meaning 'Truth alone triumphs', are inscribed below the abacus in Devanagari script.

NATIONAL
ANTHEM

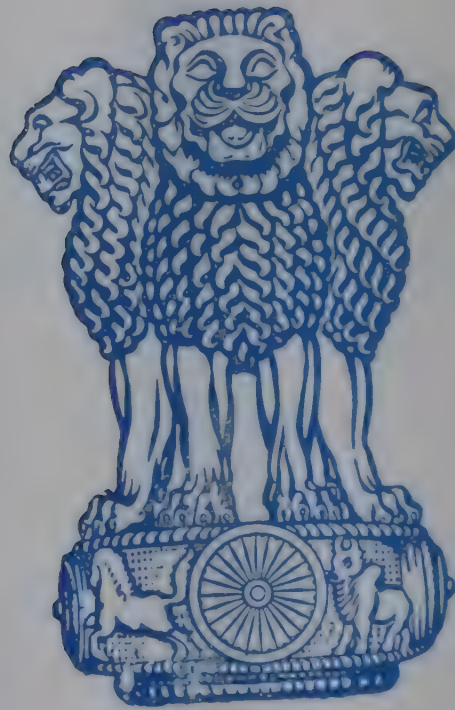
Rabindranath Tagore's song *Jana-gana-mana* was adopted by the Constituent Assembly as the National Anthem of India on 24 January 1950. It was first sung on 27 December 1911 at the Calcutta session of the Indian National Congress. The complete song consists of five stanzas. The first stanza constitutes the full version of the National Anthem. It reads :

Jana-gana-mana-adhinayaka jaya he
 Bharata-bhagya-vidhata.
 Punjaba-Sindhu-Gujarata-Maratha-
 Dravida-Utkala-Banga
 Vindhya-Himachala-Yamuna-Ganga
 Uchhala-jaladhi-taranga
 Tava subha name jage,
 Tava subha asisa mage,
 Gahe tava jaya-gatha.
 Jana-gana-mangala-dayaka jaya he
 Bharata-bhagya-vidhata
 Jaya he, jaya he, jaya he,
 Jaya jaya jaya, jaya he.

Playing time of the full version of the National Anthem is approximately 52 seconds. A short version consisting of the first and last



National Flag



सत्यमेव जयते

National Emblem

lines of this stanza (playing time approximately 20 seconds) is also played on certain occasions. The following is Tagore's English rendering of the stanza :

Thou art the ruler of the minds of all people,
 Dispenser of India's destiny.
 Thy name rouses the hearts of Punjab, Sind, Gujarat and
 Maratha,
 Or Dravida and Orissa and Bengal.
 It echoes in the hills of Vindhya and Himalayas,
 mingles in the music of Jamuna and Ganges
 and is chanted by the waves of the Indian Sea.
 They pray for thy blessings and sing thy praise.
 The saving of all people waits in thy hand,
 Thou dispenser of India's destiny.
 Victory, victory, victory to thee.

NATIONAL SONG

Bankim Chandra Chatterjee's *Vande Mataram*, which was a source of inspiration to the people in their struggle for freedom, has an equal status with *Jana-gana-mana*. The first political occasion on which was sung was the 1896 session of the Indian National Congress. The following is the text of its first stanza :

Vande Mataram !
 Sujalam, suphalam, Malayaja-shitalam,
 Shasyashyamalam, Mataram !
 Shubhrajyotsna, pulakitayaminim,
 Phullakusumita-drumadala-shobhinim,
 Suhasinim sumadhura-bhashinim,
 Sukhadam varadam, Mataram !

The English translation of the stanza rendered by Sri Aurobindo is :

I bow to thee, Mother,
 richly-watered, richly-fruited,
 cool with the winds of the south,
 dark with the crop of the harvests,
 the Mother !
 Her nights rejoicing in the glory of the moonlight,
 her lands clothed beautifully with her trees in flowering
 bloom,
 sweet of laughter, sweet of speech,
 the Mother, giver of boons, giver of bliss !

NATIONAL CALENDAR

A uniform National Calendar based on the Saka era with Chaitra as its first month and a normal year of 365 days was adopted from 22 March 1957 along with the Gregorian calendar for the following official purposes : (i) The Gazette of India, (ii) news broadcasts by All India Radio, (iii) calendars issued by the Government of India, and (iv) government communications addressed to members of the public.

The dates of the National Calendar have a permanent correspondence with the dates of the Gregorian calendar; 1 Chaitra falling on 22 March normally and on 21 March in a leap year.

India, a union of states, is a Sovereign Democratic Socialist Secular Republic with a parliamentary system of government. The Republic is governed in terms of the Constitution, which was adopted by the Constituent Assembly on 26 November 1949 and came into force on 26 January 1950.

The Constitution is federal in structure with unitary features and the President of India is the constitutional head of the executive of the union. Though the Constitution says that the executive power of the union is vested in the President, it also specifies that he shall exercise this power 'in accordance with the Constitution'. Article 74(1) of the Constitution enjoins that there shall be a 'Council of Ministers with the Prime Minister at the head to aid and advise the President in the exercise of his functions.' The real executive power thus vests in the Council of Ministers headed by the Prime Minister, collectively responsible to the Lok Sabha (House of the People). Similarly, in the states, the Governor occupies the position of the head of the executive of the state, but it is virtually the Council of Ministers with the Chief Minister at the head, collectively responsible to the Legislative Assembly of the state, which carries on the executive government.

Under the Constitution, the areas of jurisdiction of the union and states are demarcated. The constituent and residual powers of legislation are vested in Parliament of the union.

Besides, a system of local self-government is in vogue. The Directive Principles of State Policy embodied in article 40 of the Constitution say that the State shall take steps to organise village Panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self-government. A Panchayati Raj system has grown in almost every state whereby every village as well as groups of villages have self-governing institutions with varying powers. In the big cities there are elected municipal corporations and in medium and small towns there are elected municipal councils or committees.

The superintendence, direction and control of the preparation of the electoral rolls for, and the conduct of, all elections to Parliament and to the state legislatures and to the offices of President and Vice-President are vested in the Election Commission which consists of the Chief Election Commissioner and such number of other Election Commissioners, if any, as the President may fix and appoint. The Chief Election Commissioner's independence is sought to be protected by a special Constitutional provision to the effect that he shall not be removed from his office except in like manner and on the like grounds as a judge of the Supreme Court, and his conditions of service shall not be varied to his disadvantage after his appointment.

The parliamentary system of government in India is based on adult suffrage, whereby all citizens of India who are not less than 21 years of age and are not disqualified under the Constitution or any law made by the appropriate legislature on certain grounds like non-residence, unsoundness of mind or crime, illegal or corrupt practices have the right to be registered as voters in any election to the Lok Sabha and legislative assemblies of the states. In 1980, the number

of voters on the electoral rolls was 36.39 crore approximately.

The Constitution also has provisions for the independence of the Judiciary, of the Comptroller and Auditor-General of India, and the Public Service Commissions.

The Judiciary has now been separated from the executive at all levels throughout the country.

THE UNION AND ITS TERRITORY

India comprises 22 states and nine union territories. The states are : Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal. The union territories are : Andaman and Nicobar Islands, Arunachal Pradesh, Chandigarh, Dadra and Nagar Haveli, Delhi, Goa Daman and Diu, Lakshadweep, Mizoram and Pondicherry.

CITIZENSHIP

The Constitution provides for a single and uniform citizenship for the whole of India. Every person who was at the commencement of the Constitution (26 January 1950) domiciled in India and (a) was born in India, or (b) either of whose parents was born in India, or (c) who had been ordinarily resident in the territory of India for not less than five years immediately preceding that date, became a citizen of India. Special provision was made for migrants from Pakistan and for persons of Indian origin resident abroad. The Citizenship Act 1955, which supplements the provisions of the Constitution, provides for the acquisition of citizenship by birth, descent, registration, naturalisation and incorporation of territory. The Act also provides for loss of citizenship by renunciation, termination and deprivation.

FUNDAMENTAL RIGHTS

The Constitution offers all citizens, individually and collectively, some basic freedoms. These are guaranteed in the Constitution in the form of six broad categories of Fundamental Rights which are justiciable. These are : (i) the right to equality including, equality before law, prohibition of discrimination on grounds of religion, race, caste, sex, or place of birth and equality of opportunity in matters of employment; (ii) the rights to freedom of speech and expression; assembly; association or union; movement; residence; and the right to practise any profession or occupation (some of these rights are subject to the security of the State, friendly relations with foreign countries, public order, decency or morality); (iii) the right against exploitation, prohibiting all forms of forced labour, child labour and traffic in human beings; (iv) the right to freedom of conscience and free profession, practice and propagation of religion, (v) the right of minorities to conserve their culture, language and script and to establish and administer educational institutions of their choice; and (vi) the right to constitutional remedies for the enforcement of Fundamental Rights.

FUNDAMENTAL DUTIES

By the 42 Amendment of the Constitution, adopted in 1976, fundamental duties of the citizens have also been enumerated. These enjoin upon a citizen, among other things, to abide by the Constitution, to cherish and follow the noble ideals which inspired our national struggle for freedom, to defend the country and to render national service when called upon to do so and to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities.

DIRECTIVE PRINCIPLES OF STATE POLICY

The Constitution lays down certain Directive Principles of State Policy which, though not justiciable, are 'fundamental in the governance of the country' and it is 'the duty of the State to apply these principles in making laws'. These lay down that the State shall strive 'to promote the welfare of the people by securing and protecting as effectively as it may a social order in which justice—social, economic and political, shall inform all the institutions of national life'. The State shall direct its policy in such manner as to secure the right of all men and women to an adequate means of livelihood, equal pay for equal work, and, within the limits of its economic capacity and development, to make effective provision for securing the right to work, education and public assistance in the event of unemployment, old age, sickness and disablement or other cases of undeserved want. The State shall also endeavour to secure to workers a living wage, humane conditions of work, a decent standard of life and full involvement of workers in the management of industries.

In the economic sphere, the State is to direct its policy in such a manner as to secure the distribution of ownership and control of the material resources of the community to subserve the common good and to ensure that the operation of the economic system does not result in the concentration of wealth and means of production to common detriment. The State is also to take steps to secure the participation of workers in the management of industries.

Some of the other important Directives relate to the provision of opportunities and facilities for children to develop in a healthy manner, free and compulsory education for all children up to the age of fourteen; promotion of educational and economic interests of scheduled castes, scheduled tribes and other weaker sections; organisation of village panchayats; separation of judiciary from the executive, promulgation of a uniform civil code for the whole country; protection of national monuments; promotion of justice on a basis of equal opportunity; provision of free legal aid; protection and improvement of the environment and safeguarding of forests and wild life of the country; and the promotion of international peace and security, just and honourable relations between nations, respect for international law and treaty obligations and settlement of international disputes by arbitration.

THE UNION

EXECUTIVE

The union executive shall consist of the President, the Vice-President and the Council of Ministers with the Prime Minister at the head to aid and advise the President.

President

The President is elected by the members of an electoral college consisting of the elected members of both Houses of Parliament and of the legislative assemblies of states in accordance with the system of proportional representation by means of the single transferable vote. To secure uniformity among the states *inter se* as well as parity between the states as a whole and the union, suitable weightage is given to each vote. The President must be a citizen of India, not less than 35 years of age, and qualified for election as a member of the Lok Sabha (House of the People). His term of office is five years and he is eligible for re-election. His removal from office is to be in accordance with the procedure prescribed in Article 61 of the Constitution.

He may, by writing under his hand addressed to the Vice-President, resign his office.

The executive power of the union is vested in the President and is exercised by him either directly or through officers subordinate to him in accordance with the Constitution. The supreme command of the Defence Forces of the Union also vests in him. The President summons, prorogues, addresses, sends messages to Parliament and dissolves the Lok Sabha; promulgates ordinances at any time, except when both Houses of Parliament are in session; makes recommendations for introducing financial and money bills and gives assent to bills; grants pardons, reprieves, respites or remissions of punishment or suspends, remits or commutes sentences in certain cases. When there is a failure of constitutional machinery in a state, he can assume to himself all or any of the functions of the government of the state. The President can proclaim emergency in the country if he is satisfied that a grave emergency exists whereby the security of India or of any part of its territory is threatened whether by war or external aggression or armed rebellion.

Vice-President

The Vice-President is elected by the members of an electoral college consisting of the members of both Houses of Parliament in accordance with the system of proportional representation by means of the single transferable vote. He must be a citizen of India, not less than 35 years of age, and eligible for election as a member of the Rajya Sabha (Council of States). His term of office is five years and he is eligible for re-election. His removal from office is to be in accordance with the procedure prescribed in Article 67(b).

The Vice-President is the *ex-officio* Chairman of the Rajya Sabha and acts as the President when the latter is unable to discharge his functions due to absence, illness or any other cause, or till the election of a new President (to be held within six months) when a vacancy is caused by the death, resignation or removal, or otherwise of the President. While so acting, he ceases to perform the function of the Chairman of the Rajya Sabha.

Council of Ministers

There is a Council of Ministers headed by the Prime Minister to aid and advise the President in the exercise of his functions. The Prime Minister is appointed by the President who also appoints other ministers on the advice of the Prime Minister. The Council is collectively responsible to the Lok Sabha. It is the duty of the Prime Minister to communicate to the President all decisions of the Council of Ministers relating to the administration of the affairs of the union and proposals for legislation and information relating to them.

The Council of Ministers comprises ministers, who are members of the Cabinet, ministers of State and deputy ministers. For the list, see Appendices.

Administrative Set-up

Rules of Business have been framed under the Constitution for the allocation of the business of government among ministers for convenient transaction.

The allocation is made by the President on the advice of the Prime Minister specifying the items of business allotted to each ministry and by assigning a ministry or a part of a ministry or more than one ministry to the charge of a minister. A cabinet minister is often assisted by a minister of state or a deputy minister or both.

Generally, each ministry has an officer designated as Secretary to the Government of India to advise the minister on policy matters and general administration.

Cabinet Secretariat

The Cabinet Secretariat has an important co-ordinating role in the process of decision-making at the highest level and operates under the direction of the Prime Minister. Its functions include submission of cases to the Cabinet and its committees, preparation of the records of decisions taken and follow-up action on their implementation. It also services the committees of Secretaries which meet periodically under the chairmanship of the Cabinet Secretary to consider and advise on problems requiring inter-ministerial consultation and co-ordination. It formulates the Rules of Business and allocates the business of the Government of India to the ministries and departments under the direction of the Prime Minister and with the approval of the President. The Department obtains and circulates to the President, the Vice-President, the Council of Ministers and other important functionaries, periodical summaries and notes on important developments in each ministry.

PUBLIC SERVICES

For recruitment to civil services and posts under the union government, the Constitution provides for an independent body known as the Union Public Service Commission. The chairman and members of the Commission are appointed by the President.

To ensure the independence of the Commission, the Constitution debars its chairman from further employment either under the Government of India or the government of a state. A member of the Commission is, however, eligible for appointment as chairman of that Commission or of a state Public Service Commission, but for no other government employment.

The personnel of the Commission as on 1 January 1981 was :

<i>Chairman :</i>	Dr. M.L. Shahre	
<i>Members :</i>	Jaswant Rai Bansal	N. S. Saksena
	S. R. Mehta	S. Sampath
	Smt. R. O. Dhan	Dr N. A. Noor Muhammad

Staff Selection Commission

On the recommendations of the Administrative Reforms Commission, a Subordinate Service Commission came into existence on 1 July 1976. It was renamed as the Staff Selection Commission from 26 September 1977. Its primary function is to make recruitment to non-technical Class III posts in different departments of the Government of India and in subordinate offices except those posts for which recruitment is made by the Railway Service Commission and industrial establishments. The Commission's headquarters as well as the office of its northern region is located in New Delhi. The offices of the central, western, north eastern, eastern and southern regions are located at Allahabad, Bombay, Gauhati, Calcutta and Madras respectively. It has one sub-regional office at Raipur.

The personnel of the Commission as on 1 January 1981 was :

<i>Chairman :</i>	Smt. Inderjit Kaur Sandhu
<i>Member :</i>	Amar Singh

To ensure independence of the Commission, the Chairman and member of the Commission are debarred from taking up further employment under the central government or the government of a state or in any organisation under the control of these governments.

COMPTROLLER AND AUDITOR- GENERAL

The Comptroller and Auditor-General of India is appointed by the President. The procedure and the grounds for his removal from office are the same as for a Supreme Court judge. He is not eligible for further office under the union or a state government after he ceases to hold his office.

The President on the advice of the Comptroller and Auditor-General prescribes the form in which the accounts of the union and of the states are to be kept. His reports on the accounts of the union and of the states are submitted to the President and the respective Governors and are placed before Parliament and state legislatures.

His duties, powers and conditions of service have been specified by the Comptroller and Auditor-General's (Duties, Powers and Conditions of Service) Act, 1971.

OFFICIAL LANGUAGE

Hindi in Devanagari script is the official language of the union and the international form of Indian numerals is used for official purposes. It was, however, provided in the Constitution that English shall continue to be used for all official purposes of the union till 25 January 1965. But later on it was felt that a complete change-over to Hindi was not practicable within the stipulated period. Hence, the Official Languages Act, 1963, as amended, lays down that English may continue to be used, in addition to Hindi, for all official purposes of the union for which it was being used immediately before 26 January 1965 and also for the transaction of business in Parliament.

Under the provisions of Section '8' of the Act, government has framed the Official Language Rules 1976, providing guidelines for implementation of the official language policy. These rules are applicable to all the central government offices including corporations and companies owned or controlled by the central government. Communications from a central government office to a state or union territory or any individual in Region 'A' shall be in Hindi and to those in Region 'B'² shall also ordinarily be in Hindi but in case of individuals, communications may be either in Hindi or in English. The communications to states and union territories in the region other than 'A' and 'B' shall be in English. Inter-ministerial and inter-departmental communications may be in Hindi or in English. All communications received in Hindi shall be replied to in Hindi. Procedural literature including manuals of the central government shall be in English and Hindi in diglot form. An employee is free to use either Hindi or English for recording notes or minutes on a file. The administrative head of each central government office shall be responsible for proper compliance of the rules and provisions of the Act.

The general policy of the government is to encourage progressive use of Hindi as the official language of the union and as a link language between the centre and the states and between the states themselves.

¹Region 'A' comprises : Uttar Pradesh, Himachal Pradesh, Madhya Pradesh, Bihar, Rajasthan, Haryana and Delhi.

²Region 'B' includes : Punjab, Gujarat, Maharashtra, Chandigarh and Andaman and Nicobar Islands.

The Department of Official Language has been entrusted with the responsibility of implementing the official language policy of the union government and to co-ordinate the activities of various ministries/departments in this behalf.

LEGISLATURE	The legislature of the union, which is called Parliament, consists of the President and two Houses, known as the Rajya Sabha and the Lok Sabha. Each House of Parliament has to meet within six months of its previous sitting. A joint sitting of the two Houses can be held in certain cases.
Rajya Sabha	The Constitution provides that the Rajya Sabha shall consist of not more than 250 members, of whom 12 having special knowledge or practical experience in literature, science, art and social service, shall be nominated by the President and the rest shall be representatives of the states and the union territories. The elections to the Rajya Sabha are indirect; those representing the states are elected by the elected members of the legislative assemblies of the states concerned in accordance with the system of proportional representation by means of the single transferable vote and those representing the union territories are chosen in such manner as Parliament may by law prescribe. The Rajya Sabha is not subject to dissolution, one-third of its members retiring on the expiration of every second year. The membership of the Rajya Sabha, as constituted at present, is 244. Of these, 232 represent the states and union territories and twelve members, being specialists in the fields of literature, science art and social service, are nominated by the President.
Lok Sabha	The Lok Sabha as constituted at present consists of 544 members. Of these, 525 are directly elected from 22 states and 17 from nine union territories. Two members are nominated by the President to represent the Anglo-Indian Community. The number of seats for each state is so allocated that the ratio between the number and the population of the state is, as far as practicable, the same for all the states. The allocation of seats in the present Lok Sabha is based on the 1971 census and, under the 42nd Amendment of the Constitution (1976), will continue to be so based until figures of the first census taken after 2000 A.D. become available. The term of the Lok Sabha is five years from the date appointed for its first meeting. The state-wise allocation of seats in the two Houses and the party position in the Lok Sabha is given in Table 3.1. For names of members of Parliament, see Appendices.
Qualifications for Membership of Parliament	In order to be chosen a member of Parliament, a person must be a citizen of India; must be not less than 30 years of age in the case of the Rajya Sabha and not less than 25 years of age in the case of the Lok Sabha. Additional qualifications may be prescribed by Parliament by law.
Parliamentary Privileges	The Constitution provides for freedom of speech in Parliament. No member of Parliament can be held liable to any proceedings in any court in respect of anything said or any vote given by him in Parliament or any of its committees. Other powers, privileges and immunities of the members are the same as those enjoyed by the members of the House of Commons of the British Parliament at the commencement,

TABLE 3-1

ALLOCATION OF SEATS IN TWO HOUSES OF PARLIAMENT AND PARTY POSITION IN
LOK SABHA
(As on 1 January, 1981)

	No. of seats in Rajya Sabha	LOK SABHA									Total	Vacancies
		Seats	Congress (I)	Janata (SC)	CPI (M)	DMK	Other Parties	Unattached				
1	2	3	4	5	6	7	8	9	10	11		
STATES												
Andhra Pradesh	18	42	41	—	—	—	12	—	42	—	12	
Assam	7	14	2	—	—	—	—	—	2	—	2	
Bihar	22	54	32	5	—	—	14 ³	3	54	—	54	
Gujarat	11	26	25	—	—	—	14	—	26	—	26	
Haryana	5	10	5	3	—	—	2 ⁵	—	10	—	10	
Himachal Pradesh	3	4	4	—	—	—	—	—	4	—	4	
Jammu & Kashmir	4	6	2	—	—	—	36	1	6	—	6	
Karnataka	12	28	27	—	—	—	17	—	28	—	28	
Kerala	9	20	4	—	6	—	8 ⁸	2	20	—	20	
Madhya Pradesh	16	40	35	—	—	—	49	1	40	—	40	
Maharashtra	19	48	39	—	—	—	9 ¹⁰	—	48	—	48	
Manipur	1	2	1	—	—	—	1 ¹¹	—	2	—	2	
Meghalaya	1	2	1	—	—	—	—	—	1	—	1	
Nagaland	1	1	1	—	—	—	—	—	1	—	1	
Orissa	10	21	19	1	—	—	—	—	20	—	20	
Punjab	7	13	11	—	—	—	—	1	12 ¹	—	12 ¹	
Rajasthan	10	25	17	2	—	—	5 ¹²	—	24	—	24	
Sikkim	1	1	—	—	—	—	—	1	1	—	1	
Tamil Nadu	18	39	20	—	—	16	3 ¹³	—	39	—	39	
Tripura	1	2	—	—	2	—	—	—	2	—	2	
Uttar Pradesh	34	85	43	24	—	—	13 ¹⁴	—	80	—	80	
West Bengal	16	42	4	—	27	—	10 ¹⁵	—	41	—	41	

1	2	3	4	5	6	7	8	9	10	11
UNION TERRITORIES										
Andaman and Nicobar Islands .	—	1	1	—	—	—	—	—	1	—
Arunachal Pradesh .	1	2	2	—	—	—	—	—	2	—
Chandigarh .	—	1	1	—	—	—	—	—	1	—
Dadra and Nagar Haveli .	—	1	1	—	—	—	—	—	1	—
Delhi .	3	7	6	—	—	—	1 ¹⁶	—	7	—
Goa, Daman and Diu .	—	2	2	—	—	—	—	—	2	—
Lakshadweep .	—	1	1	—	—	—	—	—	1	—
Mizoram .	1	1	—	—	—	—	—	1	1	—
Pondicherry .	1	1	1	—	—	—	—	—	1	—
Anglo-Indian (Nominated) .	—	2	—	—	—	—	—	2	2	—
Nominated by President under Section 80(i) (a) of the Consti- tution .	12	—	—	—	—	—	—	—	—	—
TOTAL :	244	544	348	35	35	16	76	12	522	21

¹Excluding the Speaker²Congress (U)—1³Congress (U)—5, CPI-5, BJP-2, Janata-2⁴Janata-1⁵BJP-1, Janata-S(R)—1⁶National Conference—3⁷Janata—1⁸Congress (U)—3, CPI—2, ML—2, DSF—1⁹BJP—4¹⁰Congress (U)—1, BJP—2, Janata—6¹¹CPI—1¹²Congress (U)—1, BJP—3, Janata—1¹³AIADMK—2, Muslim League—1¹⁴CPI—1, Janata-S(R)—2, BJP—1, DSF—7, Congress (U)—1, Janata—1¹⁵RSP—4, Forward Block—3, CPI—3.¹⁶BJP—1

of the Indian Constitution, until Parliament defines them by law. The validity of any proceedings in Parliament shall not be called in question on the ground of any irregularity of procedure.

Leaders of Opposition in Parliament

Giving cognizance to the important role of the Leader of Opposition in parliamentary democracy, statutory recognition has been accorded to the Leaders of Opposition in the Rajya Sabha and the Lok Sabha. They also get salary and certain facilities to enable them to discharge their functions in Parliament. Necessary legislation for this was enacted in July 1977.

Functions and Powers of Parliament

The main functions of Parliament are to make laws for the country and make finances available to the government for the services of the State. The Council of Ministers is collectively responsible to the Lok Sabha. Parliament is also vested with the powers to impeach the President and to remove judges of the Supreme Court and High Courts, the Chief Election Commissioner and the Comptroller and Auditor-General in accordance with the procedure laid down in the Constitution.

All legislation requires the consent of both Houses of Parliament. In the case of money bills, however, the will of the Lok Sabha prevails. Delegated legislation is also subject to review and control by Parliament. All financial legislation must be recommended by the President but the Lok Sabha alone has the power to vote the demands for grants presented by the government. In times of an emergency, and also in some other contingencies laid down in the Constitution, the legislative authority of Parliament also extends to matters enumerated in the State List. The Power to amend the Constitution also rests primarily with Parliament, except in some cases where ratification by the legislatures of not less than one-half of the states is prescribed by the Constitution.

Parliamentary Committees

To assist Parliament in its deliberations, Parliamentary Committees are appointed or elected by the respective Houses themselves on a motion made or nominated by their presiding officers.

Broadly, these committees are of two kinds, standing committees and *ad hoc* committees. The former are elected or appointed every year or periodically and their work goes on more or less on a continuous basis. The latter are appointed *ad hoc*, that is as and when the need arises. They cease to exist as soon as they complete the work assigned to them.

Standing committees : Among the standing committees, the three financial committees, viz., committee on Public Accounts, Estimates and Public Undertakings—constitute a distinct class and between them keep a vigil over government spending and performance.

The Public Accounts Committee scrutinises the Appropriation Accounts of the Government of India and the report of the Comptroller and Auditor-General thereon. It ensures that public money is spent in accordance with Parliament's decision and calls attention to cases of waste, extravagance, loss or nugatory expenditure. The Estimates Committee reports on 'what economies, improvements in organisation, efficiency or administrative reform, consistent with the policy underlying the estimates' may be effected. It also examines whether 'the money is well laid out within the limits of the policy implied in the estimates and suggests the form in which the estimates shall be presented to Parliament. The Committee on Public Undertakings

TABLE 3.2
EXISTING STRENGTH OF LEGISLATIVE ASSEMBLIES AND PARTY POSITION

(As on 1 December 1980)

State/Union Territory	Total Strength	Janata	BJP	Janata(S) (CS)	INC(I)	INC(U)	CPI	CPM	Other Parties ⁴	Indepen- dents	Vacant
1	2	3	4	5	6	7	8	9	10	11	12
1. Andhra Pradesh	294	4	3	7	253	3	6	8	3	4	3
2. Assam ¹	126	30	—	3	44	5	6	11	14	8	5
3. Bihar	324	11	18	42	184	12	23	6	12	12	4
4. Gujarat	182	21	10	1	140	—	—	—	—	10	—
5. Haryana	90	4	11	23	52	—	—	—	—	—	—
6. Himachal Pradesh	68	1	24	1	37	—	—	1	—	2	2
7. Jammu & Kashmir ³	762	11	—	2	7	1	—	—	52	1	2
8. Karnataka	224	15	4	—	165	28	3	—	2	6	1
9. Kerala	140	5	—	—	17	22	17	34	44	1	—
10. Madhya Pradesh	320	2	61	1	245	—	2	—	1	8	—
11. Maharashtra ³	288	16	14	—	192	48	2	2	10	3	1
12. Manipur	60	2	—	—	28	6	5	1	16	1	1
13. Meghalaya	60	1	—	—	—	—	—	—	57	—	2
14. Nagaland	60	—	—	—	28	—	—	—	32	—	—
15. Orissa	147	3	—	12	122	2	4	—	—	4	—
16. Punjab	117	—	1	—	63	—	9	5	37	2	—
17. Rajasthan	200	8	32	7	134	6	1	1	—	11	—
18. Sikkim	32	—	—	—	—	—	—	—	30	2	—
19. Tamil Nadu	234	2	—	—	30	—	10	11	178	3	—
20. Tripura	60	—	—	—	—	—	—	49	7	1	3
21. Uttar Pradesh	425	5	11	59	307	13	7	—	4	12	7
22. West Bengal	294	20	2	4	21	2	2	173	59	4	7
23. Arunachal Pradesh	30	—	—	—	22	—	—	—	6	2	—
24. Delhi	56	—	—	—	Metropolitan Council dissolved on 21-3-1980.						
25. Goa, Daman & Diu	30	—	—	—	27	—	—	—	2	1	—

26. Mizoram	.	30	2	—	—	—	—	—	28	—
27. Pondicherry	.	30	3	—	10	—	—	1	16	—
TOTAL :	.	3,997	166	191	162	2,128	148	97	303	98
										38

1 The Assembly was under suspension till 6-12-1980.

2 Excluding 24 seats earmarked for Pakistan occupied territory.

3 Party position as on 1-8-1980.

4 Other Parties referred to in Col. (10) included—

1. Andhra Pradesh Majillis Ittehad-ul-Muslimeen—3
2. Assam Plains Tribals Council of Assam—4, Revolutionary Communist Party of India—4, Assam Janata Vidhayani Dal—6.
3. Bihar Forward Block—1, Jharkhand Mukti Morcha—11.
4. Jammu & Kashmir National Conference—48, Jamait-e-Islami—1, Inqualabi National Conference—2, J & K People's Conference—1.
5. Karnataka Muslim League—1, Republican Party of India—1.
6. Kerala Muslim League—14, Kerala Congress(M)—8, Revolutionary Socialist Party—6, Kerala Congress (J)—6, All India Muslim League—5, National Democratic Party—3, Kerala Congress(P)—1, Praja Socialist Party—1.
7. Madhya Pradesh Republican Party of India (Khobragade)—1.
8. Maharashtra Peasants' & Workers Party—9, Republican Party of India (KG)—1.
9. Manipur Manipur People's Party—16.
10. Meghalaya All Party Hill Leaders Conference—18, Public Demands Implementation Convention—2, United Meghalaya Parliamentary Democratic Forum—37.
11. Nagaland Naga National Democratic Party—31, United Democratic Front—1.
12. Punjab Shiromani Akali Dal—37.
13. Sikkim Sikkim Janata Parishad—21, Sikkim Congress(R)—8, Sikkim Prajatantra Congress—1.
14. Tamil Nadu All India Anna Dravida Munnetra Kazhagam—130, Dravida Munnetra Kazhagam—36, All India Forward Block—3, Tamil Nadu Kamaraj Congress—3, Gandhi Kamaraj National Congress—6.
15. Tripura Revolutionary Socialist Party—2, Forward Bloc—1, Tripura Upajati Juba Samiti—4.
16. Uttar Pradesh Janata Party(S)—Raj Narain—3, S. Dal—1.
17. West Bengal Forward Bloc—27, Revolutionary Socialist Party—20, Revolutionary Communist Party of India—3, Forward Bloc (Marxist)—2, Biplabi Bangla Congress—1, Socialist Unity Centre—4, Muslim League—1, Communist Party of India (Marxist Leninist)—1.
18. Arunachal Pradesh People's Party of Arunachal Pradesh—6.
19. Goa, Daman & Diu Maharashtrawadi Gomantak Party—2.
20. Mizoram People's Conference—19, People's Conference 'B' Group—4, Mizoram Congress Group—5.
21. Pondicherry Dravida Munnetra Kazhagam—15, Indian Union Muslim League—1.

examines the reports and accounts of certain specified public undertakings and reports of the Auditor-General thereon, if any. It also examines whether the public undertakings are being run efficiently and 'managed in accordance with sound business principles and prudent commercial practices'. The control exercised by these committees is of a continuous nature. They gather information through questionnaires, memoranda from representative non-official organisations and knowledgeable individuals, on-the-spot study of organisations and oral examination of official and non-official witnesses.

The other standing committees are : (i) committee on privileges—examines any question of privilege referred to it by the House or the Speaker; (ii) committee on petitions—examines petitions on bills and on matters of public interest and also entertains representations on central subjects; (iii) committee on subordinate legislation—scrutinises whether the powers to make rules, regulations, sub-rules and bye-laws conferred by the Constitution or delegated by Parliament are being properly exercised by the government within the scope of such delegation; (iv) committee on government assurances—keeps track of the assurances given by ministers on the floor of the House and pursues them till they are implemented; (v) committee on papers laid on the table—examines all the papers laid on the table of the House by ministers; (vi) business advisory committee—recommends the allocation of time for all items to be brought before the House; (vii) committee on private members' bills and resolutions—deals with classification and allocation of time to Bills from private members, examines Constitution amendment bills before their introduction in the Lok Sabha; (viii) committee on absence of members from the sittings of the House—considers leave applications of members; (ix) general purposes committee—considers and advises the Speaker on matters concerning the affairs of the House; (x) House committee deals with residential accommodation, medical aid and other amenities to the members of Parliament; (xi) library committee—considers matters concerning the libraries; (xii) committee on the welfare of scheduled castes and scheduled tribes—considers matters relating to their welfare and watches whether the constitutional safe-guards given to them are being properly implemented; and (xiii) joint committee on salaries and allowances of members of Parliament—deals with salaries and allowances, frames rules in respect of matters like housing, telephone, postal facilities etc.

Ad hoc Committees : *Ad hoc* committees may be broadly classified into two categories, viz. (i) committees which are constituted from time to time either by the Lok Sabha or by the Speaker to enquire into and report on specific subjects, and (ii) *ad hoc* committees are the select or joint committees on bills which are appointed to consider and report on particular bills.

Consultative Committees

There are Consultative Committees for different ministries and departments which provide a forum for discussion between members of Parliament and the ministries. These Committees function in accordance with the guidelines evolved by the government in consultation with leaders of opposition parties and groups.

THE STATES

The system of government in the states closely resembles that of the with leaders of opposition parties and groups.

EXECUTIVE

The state executive consists of the Governor and the Council of Ministers with the Chief Minister at its head.

Governor

The Governor of a state is appointed by the President for a term of five years and holds office during his pleasure. Only Indian citizens above 35 years of age are eligible for appointment to this office. The executive power of the state is vested in the Governor and all executive actions of the government of the state are expressed to be taken in his name.

The Governor has to act on the aid and advice of the Council of Ministers, except in so far as he is by or under the Constitution required to exercise his functions or any of them in his discretion. The discretionary powers of the Governors, specifically so stated in the Constitution, are those relating to certain matters concerning the administration of the tribal areas in Assam, Meghalaya and the Tuensang area of Nagaland and the maintenance of law and order in Nagaland. In Nagaland, the Governor has special responsibility and discretion in making rules for the composition of the regional Council and in arranging for an equitable allocation for the money provided by the Government of India between Tuensang district and the rest of the State. In the case of Sikkim, the Governor has special responsibility for peace and for an equitable arrangement for ensuring the social and economic advancement of different sections of the population of the state and in the discharge of his special responsibility, he acts in his discretion subject to certain directions as may be given by the President from time to time. However, all Governors while discharging such constitutional functions as the appointment of the chief minister of a state or sending a report to the President about the failure of the constitutional machinery in a state or in respect of matters relating to the assent to a Bill passed by the state legislature have to exercise their own judgement.

Council of Ministers

The Chief Minister is appointed by the Governor, who also appoints other ministers on the advice of the Chief Minister. The Council of Ministers is collectively responsible to the legislative assembly of the state.

Planning

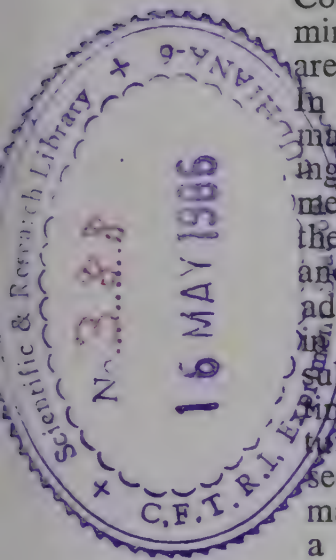
At the state level, an inter-departmental committee of secretaries headed by the Chief Secretary or Secretary in-charge of planning, co-ordinates development programmes. Generally, the functions of co-ordination for planning and implementation of programmes in the districts are performed by an officer commonly known as Development Commissioner. As a rule, a committee of the state cabinet under the Chief Minister provides overall guidance and direction. At the State level, the apex body is the State Planning Board which mostly consists of the Chief Minister as Chairman and ministers and other eminent non-officials as members.

District Administration

District Administration in the country is under a collector who is responsible for the proper collection of revenue, for the maintenance of law and order and for the developmental activities in the district. The police force in each district is headed by a superintendent of police.

LEGISLATURE

For every state there is a legislature which consists of the Governor and one House or, as the case may be, two Houses. In Andhra



Pradesh, Bihar, Jammu and Kashmir, Karnataka, Maharashtra, Tamil Nadu and Uttar Pradesh, there are two Houses known as the Legislative Council and the Legislative Assembly.¹ In the remaining States, there is only one House known as the Legislative Assembly. Parliament can, by law, provide for the abolition of an existing legislative council or for the creation of one where one does not exist, if the proposal is supported by a resolution of the legislative assembly concerned.

Legislative Council
(Vidhan Parishad)

The legislative council of a state comprises not more than one-third of the total number of members in the legislative assembly of the state and in no case less than 40 members.² About one-third of the members of the council are elected by members of the legislative assembly from amongst persons who are not its members, one-third by electorates consisting of members of municipalities, district boards and other local authorities in the states, one-twelfth by electorates consisting of persons who have been, for at least 3 years, engaged in teaching in educational institutions within the state not lower in standard than secondary schools and a further one-twelfth by registered graduates of more than three years' standing. The remaining members are nominated by the Governor from among those who have distinguished themselves in the fields of literature, science, art, co-operative movement and social service. The legislative councils are not subject to dissolution but one-third of their members retire every second year.

Legislative Assembly
(Vidhan Sabha)

The legislative assembly of a state consists of not more than 500 and not less than 60 members³ chosen by direct election from territorial constituencies in the state. The demarcation of territorial constituencies is to be done in such a manner that the ratio between the population of each constituency and the number of seats allotted to it, as far as practicable, is the same throughout the state. The term of an assembly is five years unless it is dissolved earlier.

Table 3.2 gives the strength of the legislative councils in the states with bicameral legislatures and the number of seats and party position in the legislative assemblies in the states as on 1 December 1980.

Powers and Functions

The state legislature has exclusive powers over the subjects enumerated in List II of the Seventh Schedule to the Constitution and concurrent powers over those enumerated in List III. The financial powers of the legislature include authorisation of all expenditure, taxation and borrowing by the state government. The legislative assembly alone has the power to originate money bills. The legislative council can make only recommendations in respect of changes it considers necessary within a period of fourteen days of the receipt of a money bill from the assembly. The assembly can accept or reject the recommendations.

¹Although the Constitution (Seventh Amendment) Act, 1956 provides for the creation of a legislative council in Madhya Pradesh, it has not yet been constituted.

²The legislative council of Jammu and Kashmir has 36 members *vide* section 50 of the Constitution of Jammu and Kashmir.

³The legislative assembly of Sikkim has 32 members *vide* article 371 F of the Constitution.

Reservation of Bills

The Governor of a state may reserve any Bill for the consideration of the President. Bills relating to subjects like compulsory acquisition of property, measures affecting the powers and the position of High Courts, and imposition of taxes on the storage, distribution and sale of water or electricity in inter-state river or river valley development projects should necessarily be so reserved. No Bill seeking to impose restrictions on inter-state trade can be introduced in a state legislature without the previous sanction of the President.

Control over Executive

The state legislatures, apart from exercising the usual power of financial control, use all the normal parliamentary devices like questions, discussions, debates, adjournment and no-confidence motions and resolutions to keep a watch over the day-to-day work of the Executive. They also have their Committees on Estimates and Public Accounts to ensure that grants sanctioned by the legislature are properly utilised.

UNION TERRITORIES

The union territories are administered by the President acting, to such extent as he thinks fit, through an administrator appointed by him.

The administrators of Arunachal Pradesh,¹ Delhi, Goa, Daman and Diu, Mizoram and Pondicherry are designated as Lt. Governors, while the administrators of Andaman and Nicobar Islands, and Chandigarh are designated as Chief Commissioners. The Lt.-Governor of Goa, Daman and Diu is concurrently the administrator of Dadra and Nagar Haveli. Lakshadweep has a separate administrator.

The union territories of Arunachal Pradesh, Goa, Daman and Diu, Mizoram and Pondicherry have legislative assemblies and Councils of Ministers. Delhi has a metropolitan council and an executive council.

The legislative assemblies in the union territories may make laws with respect to matters in the state field, namely, those enumerated in List II or List III in the Seventh Schedule insofar as they are applicable in relation to union territories. Parliament can also make laws with respect to such matters for the union territories.

The Metropolitan Council in Delhi has the right to discuss and make recommendations about matters insofar as they relate to Delhi.

ZONAL COUNCILS

The states and union territories on the mainland except those in the north-eastern region are grouped into zones. Each zone has a high-level advisory body known as the Zonal Council which provides the forum for discussing matters of common interest to the states and union territories in that zone. The states of Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan and the union territories of Chandigarh and Delhi are in Northern Zone. The Central Zone comprises the states of Madhya Pradesh and Uttar Pradesh while the states of Bihar, Orissa, Sikkim and West Bengal are in the Eastern Zone. The states of Gujarat and Maharashtra and the union territories of Goa, Daman and Diu, and Dadra and Nagar Haveli are in the Western Zone. The Southern Zone comprises the states of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu and the union territory of Pondicherry.

For the north-eastern region there is a body similar to the zonal

¹ Under the Government of Union Territories (Amendment) Act, 1975, the union territory of Arunachal Pradesh has come under a Lt. Governor from 15 August 1975. The Pradesh Council and councillors were replaced by a legislative assembly and a Council of Ministers respectively.

councils to deal with matters of common interest in the States of Assam, Manipur, Meghalaya, Nagaland and Tripura and the Union Territories of Arunachal Pradesh and Mizoram. The North Eastern Council, which came into being in August 1972 has certain additional functions. It formulates a unified and co-ordinated regional plan (which supplements the state plan) covering matters of common importance. In case of projects or schemes intended to benefit two or more states, the Council recommends the manner in which they are executed, managed or maintained, their benefits shared and the expenditure incurred. The Council also reviews, from time to time the implementation of the projects and schemes included in the regional plan and recommends measures for effecting co-ordination among the concerned states and union territories in the matter of implementation of such projects and schemes. The council normally meets twice a year.

LOCAL GOVERNMENT Municipal Corporations

In most of the states, corporations have been established for major cities under specific Acts of the state legislature. These are headed by elected mayors. The administration of the city vests in an elected council and the powers of the corporation are exercised by three authorities : (i) general council of the corporation; (ii) standing committees; and (iii) the municipal commissioner/chief executive officer. The standing committees are elected by the council and carry out most of the work of administration including taxation, finance and preparation of budget, engineering works and health and education services. The power of sanctioning estimates and contracts vests in the three authorities up to specified amounts. The general council appoints most of the officers of the corporation but the municipal commissioner is appointed by the state government. The executive powers of the corporation generally vest in the municipal commissioner who prescribes the duties of the various officers, and supervises their work. The functions of the municipal corporation include public safety, health, education and other conveniences of the citizens as well as construction and maintenance of water works and sewerage, streets and bridges, parks and recreation grounds, markets and shopping centres and so on. Major corporations also undertake works of housing and land development. But there is a growing practice of entrusting these works to special urban development authorities. There were 40 municipal corporations in the country in December 1979.

Municipal Committees and Councils

For all other towns and cities, there are municipalities having elected boards or councils which in turn elect their own presidents. In Maharashtra a system of direct election of presidents was introduced in 1974. All the members of a municipality constitute the general body which decides all questions of policy and important details of municipal administration. The powers of passing the budget imposing taxes, voting expenditure and making rules and regulations vest in the general body. The municipal council, however, mostly functions through committees which exercise delegated powers or make recommendations to the council. The day-to-day work of the municipality is carried on by an executive officer drawn sometimes from state civil service or a state-wide cadre of municipal officers. In many states, however, the municipal councils continue to appoint their own executive officers and other officials.

Local Self-Government in Districts

The system of Panchayati Raj, which was introduced in 1959, is a three-tier structure of local self-government at the village, block and district levels. The states are, however, free to make changes in the structure to suit local conditions. All Panchayati Raj bodies are organically linked up. Special representation on these bodies is given to backward classes, women and co-operative societies.

Village Panchayats

Elected directly by and from among the villagers, the Panchayats are responsible for agricultural production, rural industries, medical relief, maternity and child welfare, management of common grazing grounds, maintenance of village roads, streets, tanks and wells and provision of sanitation and drainage. In some places Panchayats also look after primary education, maintenance of village records and the collection of land revenue. For building up funds they levy tax on houses and lands, fairs and festivals and sale of goods, impose octroi duties, and build up remunerative community assets.

For providing a speedy and inexpensive system of justice to the villagers, Nyaya (judicial) Panchayats or village courts are functioning in some of the states.

Cantonment Boards

Cantonment boards have been set up in cantonment areas under the Cantonments Acts 1924, to provide civic amenities and welfare services to the people living there. These boards are autonomous local self-government bodies subject to supervision and control by GOC-in-C of the Command and the central government. Depending upon their civil population, cantonment boards have been classified into three categories, namely, Class I, Class II and Class III. The composition of a cantonment board consists of elected and nominated members. The Station Commander becomes the president of the board. The number of elected and nominated members is kept equal in Class I and Class II cantonment boards varying from 1 to 7 with a view to establish democratisation of administration, although according to statutory provisions the number of nominated members may exceed the elected members by one. These boards have the power of taxation which is their main source of revenue. The budget estimates prepared by the boards are scrutinised and sanctioned by the GOC-in-C of the Command. There were 62 cantonment boards in the country as on 1 January 1980. Of these, 30 were Class I, 19 Class II and 13 Class III.

India's defence policy aims at promoting and sustaining durable peace in the sub-continent by means of negotiations and co-operation among various countries in the region and at the same time equipping the defence forces as a safeguard against aggression.

The supreme command of the Armed Forces is vested in the President of India. The responsibility for national defence, however, rests with the Cabinet. All important questions having a bearing on defence are decided by the Cabinet Committee on Political Affairs, which is presided over by the Prime Minister. The Defence Minister is responsible to Parliament for all matters concerning the Defence Services. The administrative and operational control of the Armed Forces is exercised by the Ministry of Defence and the three Services Headquarters. The Ministry of Defence acts as the central agency for ensuring a co-ordinated development of the three Services, for conveying the Government of India's decisions on policy matters to the three Services Headquarters for implementation and for obtaining financial sanction for defence expenditure from Parliament.

ORGANISATION The three Services function under their respective Chiefs of Staff. As on 1 June 1981 the Chiefs of Staff were :

<i>Chief of the Army Staff</i>	General K. V. Krishna Rao
<i>Chief of the Naval Staff</i>	Admiral R. L. Pereira
<i>Chief of the Air Staff</i>	Air Chief Marshal I. H. Latif

Army

At the Army Headquarters, in New Delhi, the Chief of the Army Staff is assisted by the Vice Chief of the Army Staff and five other Principal Staff Officers—Deputy Chief of Army Staff, Adjutant-General, Quartermaster-General, Master-General of Ordnance and Military Secretary—and a Head of Branch, namely, Engineer-in-Chief.

The Army is organised into five Commands—Western, Eastern, Northern, Southern and Central—each under a General Officer Commanding-in-Chief of the rank of Lieutenant-General. The Commands are divided into Areas, Independent Sub-Areas and Sub-Areas. An Area is commanded by a General Officer Commanding of the rank of a Major-General and an Independent Sub-Area and Sub-Area by a Brigadier.

The Army consists of a number of arms and services. These are : President's Body Guard, Armoured Corps, Regiment of Artillery, Corps of Engineers, Corps of Signals, Infantry, Army Service Corps, Military Nursing Service, Army Medical Corps, Army Dental Corps, Army Ordnance Corps, Corps of Electrical and Mechanical Engineers, Remount and Veterinary Corps, Military Farm Services, Army Education Corps, Intelligence Corps, Corps of Military Police, Army Physical Training Corps, Pioneer Corps, Army Postal Service Corps and Defence Security Corps.

The sanctioned strength of all ranks of the Army is over 8.00 lakhs.

Navy

The operational control of the Navy is exercised by the Naval Headquarters in New Delhi through a chain of commands.

At the Headquarters, the Chief of the Naval Staff is assisted by four Principal Staff Officers namely, the Vice Chief of the Naval Staff, Chief of Personnel, Chief of Material and Deputy Chief of the Naval Staff.

The Navy is organised into three Naval Commands under Flag Officers Commanding-in-Chief : Western Naval Command with headquarters at Bombay, Eastern Naval Command with headquarters at Vishakhapatnam and Southern Naval Command with headquarters at Cochin.

The Navy has two Fleets—the Western Fleet and the Eastern Fleet. The two Fleets consists of the aircraft-carrier *INS Vikrant*, one cruiser *INS Rajput*, a number of frigate squadrons, including some of the latest types of anti-submarine and anti-aircraft frigates, a squadron of anti-submarine patrol vessels, one mine-sweeping squadron, submarines, a submarine depot ship and fast vessels carrying surface-to-surface guided missiles. The Navy has a sizeable air wing with various types of fixed wing air-craft and helicopters. Besides, there are some survey ships, two fleet tankers and a number of auxiliary craft. The survey units of the Navy carry out a survey of India's coast and approaches to the harbours. A naval organisation is functioning at Port Blair to ensure the security of the Bay Islands. An interim coast guard organisation was set up in February 1977. The Navy has taken over the responsibilities for maritime reconnaissance (MR) from the IAF and has also acquired some MR aircraft.

Bureau of sailors is located at INS Angre at Bombay. Para medical sailors are trained at the School of Medical Assistants part of the Institute of Naval Medicine at Bombay. Seven naval hospitals one each at the major naval stations like Bombay, Vishakhapatnam, Cochin, Vascodé-Gama, Lonavla, Chilka and Port Blair. In addition, each major naval establishment has a Sick Bay which is a mini hospital.

A Dockyard, one of the largest in Asia at Vishakhapatnam, is fully operational. The second phase of the modernisation and expansion programme of the naval dockyard at Bombay is in progress.

Since 1964, India has been building her own naval ships and craft. The construction programme of the Leander Class Frigate is nearing completion and the first of the Godavari class ships, completely designed by Indian Naval Design Organisation, has been launched at the Mazagon Dock, Bombay.

Air Force

The Indian Air Force is organised into Six Commands. These are : Western Air Command, South Western Air Command, Central Air Command, Eastern Air Command, Training Command, and Maintenance Command.

At the Air Headquarters in New Delhi, the Chief of the Air Staff is assisted by four Principal Staff Officers, namely, Vice Chief of the Air Staff, Deputy Chief of the Air Staff, Air Officer-in-Charge, Administration and Air Officer-in-Charge, Maintenance. Each of them controls a group of Directorates.

The Air Force combat fleet, which is made up of 45 squadrons, consists of a variety of fighters, fighter-bombers, fighter interceptors, bombers and transport and logistics support aircraft. Among the fighter aircraft are SU-7s, Hunters, Gnats, Ajcets, MIG-21s and HF-24s. Canberras comprise the bomber fleet. A new aircraft, Jagaur, 2—301DPD/81

is being inducted into IAF to replace Hunters and Canberras. The transport fleet consists of AN-12s, Dakotas, Fairchild Packets, Caribous, Otters, TU-124s and Indian built HS-748s. Helicopters in use are MI-4s, MI-8s, Cheetas and Chetaks, the last two being built in India. The aircraft used for training purposes are HT-2 Basic Trainer, HJT-16 (Kiran) Jet Trainer and HS-748 transport trainer, all built in India, and Polish Iskras.

Commissioned Ranks

The following are the commissioned ranks in the three Services; each rank is shown opposite to its equivalent in the other Services.

Army	Navy	Air force
General	Admiral	Air Chief Marshal
Lieutenant-General	Vice-Admiral	Air Marshal
Major-General	Rear-Admiral	Air Vice Marshal
Brigadier	Commodore	Air Commodore
Colonel	Captain	Group Captain
Lieutenant-Colonel	Commander	Wing Commander
Major	Lieutenant-Commander	Squadron Leader
Captain	Lieutenant	Flight Lieutenant
Lieutenant	Sub-Lieutenant	Flying Officer
Second Lieutenant	Acting Sub-Lieutenant	Pilot Officer

EXPENDITURE

Table 4.1 show, the trend in total defence expenditure since 1964-65, its percentage to the total expenditure of the union government and its percentage to the gross national product.

TABLE 4.1
DEFENCE
EXPENDITURE

Year	Total defence expenditure (Rs. crores)	Total expenditure of Govt. of India (Rs. crores)	Gross national Product (Rs. crores)	Defence expenditure as percentage of total govt. expenditure	Defence expenditure as percentage of gross national product
1964-65	806	2,603	21,113	31.0	3.8
1965-66	885	2,720	21,866	32.5	4.0
1966-67	909	3,217	25,250	28.3	3.6
1967-68	968	3,148	29,612	30.7	3.3
1968-69	1,033	3,140	30,293	32.9	3.4
1969-70	1,101	3,590	33,521	30.7	3.3
1970-71	1,199	4,120	36,452	29.1	3.3
1971-72	1,525	5,498	38,972	29.1	3.9
1972-73	1,652	5,498	42,939	30.0	3.8
1973-74	1,681	5,845	53,447	28.8	3.1
1974-75	2,112	74,423	62,972	28.5	3.4
1975-76	2,472	9,429	66,193	26.2	3.7
1976-77	2,563	10,291	71,826	24.89	3.6
1977-78	2,634	11,605	81,105	22.7	3.2
1978-79	2,868	13,366	86,927	21.5	3.3
1979-80	3,356	14,473	96,850	23.2	3.5
1980-81(RE)	3,800	18,428	na	20.6	na
1981-82(BE)	4,200	19,385	na	21.7	na

RE—Revised estimates.

BE—Budget estimates.

n.a.—Not available.

Source—Ministry of Finance

TRAINING INSTITUTIONS
National Defence Academy

The National Defence Academy (NDA), Khadakvasla, conducts a three-year combined basic military training course for potential officers of the three Services after which they receive specialist training at their respective Service establishments. The cadets are also trained to the degree level of an Indian university. Admissions to the Academy

are made on the basis of a qualifying bi-annual written examination conducted by the Union Public Service Commission at different centres in the country, followed by assessment by a Services Selection Board. Boys who have passed the Higher Secondary or an equivalent examination and are between 16 and 18½ years of age on the first day of the month in which the course starts are eligible for admission. They must be unmarried and should remain so during the period of their stay at the Academy.

All expenses of the cadets while at the Academy, except the pocket expense of Rs 40 per month, are met by the government. Where the monthly income of parents is less than Rs 450, even this expense is borne by the government.

Defence Services Staff College

The Staff College at Wellington provides training to officers of Army, Navy and Air Force for holding staff appointments in their own Services as well as in inter-Service headquarters. About 300 officers from the three Services, including 26 foreign officers and 4 civilian officers, are trained every year.

National Defence College

The National Defence College in New Delhi trains senior officers of the three Defence Services, including a few from foreign countries and senior civilian officers, in politico-military studies connected with national security at the strategic level.

Armed Forces Medical College

The Armed Forces Medical College, Pune, conducts an MBBS course and a degree course in Nursing. It also conducts advanced courses in various disciplines of medical science, each of 96 weeks' duration, for Armed Forces medical officers to enable them to specialise in their respective fields and also to make them eligible to appear for post-graduate degree and diploma examinations of Pune University. Likewise, long courses are being conducted in various disciplines of Dental Surgery leading to MDS degree of Bombay University.

The College also trains para-medical personnel for various technical categories in Armed Forces medical services. In addition, the College runs refresher courses for medical officers of the Armed Forces.

Army College and School

The Indian Military Academy (IMA), Dehra Dun, is the premier institution for training officers for the Army. Its intake includes cadets passing out of the National Defence Academy at Khadakvasla who receive one year's training here before being commissioned. The IMA holds 1½ years' courses for higher age-group entrants who have either qualified in the Union Public Service Commission's examination or are graduate cadets of the National Cadet Corps and have thereafter qualified at the Services Selection Board. Graduates selected for specialised commissions in various technical arms are given one year's training at IMA. A year's training is also imparted at IMA to serving Regular or Territorial Army Junior and Non-Commissioned Officers (JCOs and NCOs) who have successfully completed the three-year training course at the Army Cadet College; on completion of the training at IMA, these personnel are granted commission in the Army. These other ranks are selected earlier for their officer-like qualities and general academic and educational standard.

The College of Combat, Mhow, conducts the Higher Commander Course, the Senior Command Course and the Junior Command Course. The College of Military Engineering, Kirkee, imparts training to officers and other ranks in all aspects of military engineering. Longer courses of over two years' duration are also conducted to train officers up to the degree standard. The Military College of Telecommunication Engineering at Mhow imparts basic and advanced technical training in telecommunications and signal tactics.

The Armoured Corps Centre and School, Ahmadnagar, conducts training in the tactical handling of armoured fighting vehicles and their driving and maintenance. The School of Artillery, Deolali, provides training in field branch and air defence artillery. The Infantry Schools at Mhow and Belgaum conduct courses for infantry officers and men. The Army Ordnance Corps School at Jabalpur imparts specialised corps training in the identification and preservation of all items, including ammunition and explosives, stocked by the ordnance depots.

The Institute of Defence Management at Secunderabad trains Service and civilian officers in modern defence management techniques.

Some of the other Army training centres and schools are : the High Altitude Warfare School; Counter Insurgency and Jungle Warfare School; the Army Service Corps School, Bareilly; EME School, Vadodara; Military College of Electronics and Mechanical Engineering, Secunderabad; Remount Veterinary Corps Centre and School, Meerut; Army Educational Corps Training College and Centre, Pachmarhi; Intelligence Training School and Depot, Pune; Corps of Military Police Centre and School, Bangalore; Army School of Physical Training, Pune; Army Air Transport Support School, Agra; and the Army Clerks Training School, Aurangabad.

Naval Training Establishments

INS Venduruthy and the Naval Air Station, *Garuda*, at Cochin, are the principal training centres for the officers and men of the Navy. While *INS Venduruthy* imparts training in gunnery, navigation, torpedo and anti-submarine warfare and communications. *Garuda* has training aircraft of the Navy and some training schools.

Mechanical engineers and artificers are trained at *INS Shivaji* at Lonavla (Maharashtra). Junior engineers and electrical officers of the Service receive training at the engineering college at Lonavla.

INS Valsura, Jamnagar (Gujarat) trains officers and men of the electrical branch of the Service. With most of the ships now fitted with sophisticated electronic equipment, training has been geared to the present requirements of the Navy.

New recruits joining the Navy are trained at *INS Chilka* near Bhubaneswar and on completion of their courses become sailors. Sea training is imparted by the two Fleets. Officers and men doing supply and secretariat duties are trained at *INS Hamla*, Malad, Bombay.

To meet the increasing training requirements, a naval academy has been established at Cochin. A Sailors' Training Establishment has been set up at Dabolim in Goa. The First Training Squadron has been raised to give sea training to officers and seamen.

Air Force Training Institutions

The basic flying training for pupil pilots is imparted at the Elementary Flying School at Bidar, and the advanced flying training at Air Force Academy, Hyderabad or Fighter Training Wing, Hakimpet

(for alternate courses). Pupil pilots who do not come through NDA, such as ex-airmen and NCC cadets, undergo pre-course training at Air Force Administrative College, Coimbatore, before starting basic flying training. Wings and Commissions are given on completion of the advanced stage. Thereafter, these trainee officers are bifurcated into three streams for the final applied stage of flying training—the fighter stream at Air Force Academy, Hyderabad, or the Fighter Training Wing, Hakimpet (for alternate courses), the transport stream at the Transport Training Wing, Yellahanka, and the helicopter stream at the Helicopter Training School, Hakimpet. *Ab-initio* navigation training, advanced navigation training and air signallers' training is given at the Navigation and signals School, Hyderabad. Ground Duties (non-technical) officers and TAC officers are trained at the Air Force Academy, Hyderabad. Senior Non-Commissioned Officers selected for commission in their respective Ground Duties Branch, undergo a short pre-commissioning course at the Air Force Administrative College. Flying instructors are trained at the Flying Instructors' School, Tambaram. A College of Air Warfare at Secunderabad, with two departments (Department of Air Warfare and Department of Joint Warfare), conducts higher joint services and air warfare studies.

The Air Force Administrative College, Coimbatore runs advanced courses for Ground Duties (non-technical) officers and the Junior Commanders' course for all branches. Technical officers are trained at the Air Force Technical College, Jalahalli. Senior technical officers with more than 13 years of service are trained in management techniques at the Air Force Station, Jalahalli. A school at Sambra near Belgaum trains airmen in accounting, equipment, general office duties, drill and catering. Another school at Sambra trains officers and airmen in physical fitness and sports.

Institutes at Jalahalli train airmen in radar, radio, electrical instruments, photo, meteorology, air field safety, driving and police duties. Another school at Tambaram trains airmen in mechanical trades such as air frames, engines, armament and safety equipment. Motor mechanics are trained at another ground training school at Avadi. Ground training institutes at Baroda and Barrackpore prepare personnel to man surface-to-air missiles and associated equipment. Paratroopers for air-borne units of the Army are trained at the Paratroopers Training Schools.

Medical and aircrew officers receive specialised training at the Institute of Aviation Medicine, Bangalore.

Rashtriya Indian Military College

Run on the lines of public schools, the Rashtriya Indian Military College, Dehra Dun, prepares boys who desire subsequently to choose a military career for entrance examination, to the National Defence Academy.

Sainik Schools

Like the Rashtriya Indian Military College, 18 sainik schools prepare boys in the age group 10–18 for the entrance examination of the National Defence Academy. The total strength of boys at present is about 9,000.

SUPPLIES PRODUCTION AND RESEARCH

A substantial part of the defence stores needed by the Services is now being developed and produced in the country. The responsibility for this has been entrusted to two separate Departments—Defence Production and Defence Supplies—in the Ministry of Defence. The

Department of Defence Production organises, directs and co-ordinates production of material and equipment required by the Armed Forces. It carries out its responsibility through the Directorate of Technical Development and Production, Ordnance Factories, Inspection, Standardisation, Defence Research and Development Organisation and nine public sector undertakings.

The Defence Production Board formulates policies in the field of indigenisation of defence stores by making use of the facilities available both in the private and public sectors. The Department also helps in establishing the production of newly developed items. In the task of indigenisation, it operates through a number of technical committees.

The Defence Production Board formulates policies in the field of production and plans future growth on balanced and economic lines. The policy on foreign collaboration agreements for defence production is governed by the official statement of 25 April 1973. Under this, the practice of periodic extension of such agreements is to be ended. Instead, outright purchase is to be made of the required know-how which would be improved by research and development within the country.

Ordnance Factories

Under the Department of Defence Production there is a chain of ordnance factories located all over the country. These turn out a variety of equipment and stores, such as battle tanks, highly sophisticated guns, including anti-aircraft guns and field guns, rifles, ammunition, bombs, rockets, a variety of vehicles, bridges, explosives and propellants, instruments, clothing, parachutes and leather items.

Over the years, the gross value of production in the ordnance factories has risen from Rs 168 crores in 1970-71 to about Rs 600 crores in 1979-80. Self-sufficiency has been achieved in the production of arms and ammunition, both for the small and medium calibre fighting requirements, most of which are products of our own indigenous efforts, with 10 per cent imported raw materials. Production of heavy guns and their ammunition has also commenced.

Capital projects have been taken in hand involving an outlay of about Rs 330 crores in the field of heavy guns, ammunition, explosives and metallurgical stores. In the new areas of production, are production of heavy guns for the Army, creation of production facilities for propellants for the heavy guns, ammunition, modernisation of facilities at High Explosive Factory, Kirkee, the Cordite Factory, Aruvankadu, and Ordnance Factory, Bhandara. Laser techniques are being adopted for range finding and other uses.

Apart from maintaining steady progress in production some new and sophisticated items hitherto being imported, are now indigenously produced. To achieve self-sufficiency in defence requirements bulk production of sophisticated ammunition for a heavy calibre gun for the first time has been established and project for the production of illuminating ammunition completed. The production of a new type of binocular for the Army has also been started. Besides, the Ordnance Factories have also completed a modernisation scheme incorporating the latest trends of technology in the field of propellant manufacture.

Ordnance factories are also helping parties in India and abroad in setting up production and training. They are at present setting up a defence production training institute in a friendly country. A public

sector enterprise, Coal India Limited, has engaged the ordnance factories to set up a facility at Bhandara for manufacture of 5,000 tonnes of commercial explosives a year for use in gassy coal mines. The project is complete and likely to be commissioned shortly.

Defence
Undertakings in
Public Sector

There are nine public sector undertakings under the Ministry of Defence which have continued to grow. As on 31 March 1979, about 95,000 persons were employed. These are making substantial contribution towards self-reliance in sophisticated items for the defence services. During 1979-80, these undertakings' produced items worth about Rs 500 crores which is estimated to exceed Rs 575 crores during 1980-81. The investments in these undertakings have also gone up from Rs 311.18 crores to Rs 363.00 crores during the same period. Except the *Mishra Dhatu Nigam Limited* which is expected to be commissioned in May 1981, all other undertakings are currently in production.

The establishment of indigenous manufacturing facilities for a number of items have stimulated sophisticated technology in the country such as sophisticated aircraft of various types; electronics, communication equipments, radar and professional grade components, warships and merchant ships; dredgers, tugs and cargo bulk carriers, marine diesel engines, deck machinery for ships; heavy earth moving equipment of various types; and anti-tank missiles and machine tools. In BEML, research and development activities have helped produce a number of products of their own design in the earth moving equipment. In the railcoach division, trailers were designed, developed and produced through their own research and development efforts. The Mazagon Dock have developed basic designs for water tankers and multipurpose cargo-vessels.

A brief description of the nine undertakings is given below :

The Hindustan Aeronautics Ltd. (HAL), set up in 1964, has 11 factories in six different states. Six factories, including the unit at Barrackpore in West Bengal, comprise the Bangalore Complex of HAL. Two factories, at Koraput and Nasik, comprise the MIG complex. The factories at Lucknow and Hyderabad form the accessories complex and the one at Kanpur manufactures the military freighter version of HS-748 aircraft and the low-wing agricultural aircraft, Basant, designed and developed for aerial application of pesticides and fertilizers. The HAL is currently manufacturing the improved version of the Gnat jet fighter, Ajeet, the jet trainer Kiran, the trainer HPT-32, the supersonic jet interceptor, MIG-21M, the Alouette III helicopter, Chetak and the light-weight helicopter for AOP role, Cheetah. The Company has indigenised 2,500 items so far. It has also been assigned the manufacture of Adour engines and Airframes for the Jaguar International aircraft for which preliminary action was taken in 1979.

The Bharat Electronics (BEL), has three units—Bangalore, Ghaziabad and Pune. Its Bangalore unit, which began production in 1956 with just two electronic items, has diversified its products which range from the tiny transmitters to highly sophisticated radars. Among the electronic components manufactured by it are radio and television receiving valves, germanium and silicon transistors and diodes, X-ray tubes and TV picture tubes. The unit at Ghaziabad, set up in 1973, manufactures electronic equipment to meet the needs of an air defence ground environment system and micro-wave communica-

tion sets to various departments of the state and central governments. BEL's third unit set up at Pune manufactures components for night vision electronic equipment. The company's export amounted to Rs 5.05 crores during 1979-80. During the period it successfully evaluated the 3D Mobile Radar and also completed the user fuels of IFF system.

The Mazagon Dock at Bombay, the Goa Shipyard at Goa and the Garden Reach Shipbuilders and Engineers at Calcutta are building and repairing ships, dredgers, barges and tugs. The Mazagon Dock has completed the fifth Leander class frigate for the Navy and the first indigenously designed *Godavari* class frigate was launched on 15 May 1980. Under its expansion scheme, it has added two shipbuilding berths, an impounded wet dock capable of taking four medium sized ships at a time, besides new production and assembly shops with modern machinery. The company has also diversified in the field of manufacture of off-shore fixed platforms for the Oil and National Gas Commission. It can now handle up to 60 ships a month for voyage repairs. The Garden Reach Shipbuilders and Engineers build ocean-going cargo ships up to 26,000 DWT, large capacity dredgers, and other harbour craft like tugs and barges, besides seaward defence boats and survey vessels for the Navy. They are also building Patrol boats for the Indian Customs. The first bulk carrier for Moghul lines is now in advanced stage at the fitting out jetty. The second one has been launched and the keel of the third laid. The Goa Shipyard Ltd., is now capable of building barges up to 1,000 DWT, small dredges, fishing trawlers, tugs and other harbour craft. It delivered to the Indian Navy, the first landing craft utility in January 1980. And the first exploratory vessel to Ministry of Agriculture in March 1980. The Mazagon Docks earned foreign exchange of the value of Rs 5.58 crores during 1979-80.

The Bharat Dynamics, Ltd., Hyderabad incorporated in 1970 for the manufacture of anti-tank missiles in India commenced production with foreign collaboration in 1971. Since then, the undertaking has achieved 72 per cent indigenisation; besides, it has also been attempting to diversify its activities. Recently it has taken up production of proto-type of mini computer.

The Bharat Earth-movers, Ltd., Bangalore has a unit which manufactures broad gauge railway coaches, trailers, etc., and a second unit at Kolar Gold-fields which manufactures heavy earthmoving equipment. The company exported earth moving equipment railcoaches and spares, worth Rs 4.16 crores to Bhutan, Bulgaria and Sri Lanka during 1979-80.

The Praga Tools at Hyderabad, manufactures drilling tools, cutter grinders, surface grinders, milling machines, machine tool accessories and railway screw coupling, auto-diesel spares, forgings and castings.

The Mishra Dhatu Nigam, Ltd., Hyderabad, was incorporated in 1973 to set up indigenous capabilities for the manufacture of a wide range of sophisticated and strategic special metals and super alloys, in various shapes and sizes, as required by several vital industrial sectors, such as nuclear energy, power generation, aeronautics, space, electronics, chemical engineering and instrument industries. The factory started trial production in 1979-80. It is expected to be commissioned by May 1981.

Research and Development

The Department of Defence, Research and Development was created under the Ministry of Defence on 7 May 1980. The Department under Scientific Adviser to the Defence Minister and Secretary, Defence Research and Development has been made responsible for rendering advice to Defence Minister and to the three Services and inter-Services organisations on all scientific aspects of military operations, equipment and logistics. It is also responsible for formulation of research, design and development plans on armaments, explosives, electronics, engineering, rockets and missiles, vehicles, aeronautics, fire research, naval technology, food, agriculture and bio-medical sciences and administration of Defence Research and Development Organisation and its laboratories. The DRDO was established in 1958. Its principal responsibilities relate to the design and development of new and sophisticated weapons and equipment, based on the operational requirements projected by the Services, to provide help in their indigenous production and to render scientific advice to the three Services as needed.

TERRITORIAL ARMY

The Territorial Army, which was started in 1949, is designed to give the citizens an opportunity to receive military training in their spare time and to serve the country in times of emergency by providing units to the regular army. It is a voluntary force and has units of infantry, engineers and medical. It is not required to perform military service outside India save under a general or special order of the central government.

All able-bodied nationals of India between the ages of 18 and 35 (with relaxation in the upper age limit for entry into certain technical units) and possessing the requisite qualifications are eligible to join the Territorial Army as an officer or Other Rank.

NATIONAL CADET CORPS

The National Cadet Corps is a youth organisation, entry to which is open to students of universities, colleges and schools on a voluntary basis. It aims at development of leadership, character, comradeship, spirit of sportsmanship and the ideal of service among the youth and creation of a force of disciplined and trained man-power which in a national emergency could be of assistance to the country. The cadets and the NCC commissioned officers have no liability for active military service. Adventure training and social service receive emphasis in the training being imparted to cadets.

NCC consists of three divisions—Senior, Junior and Girls. The present authorised strength of the corps in Senior Division is four lakhs — Army 3,13,800, Navy 12,600, Air 11,600 and Girls 62,000. The Junior Division has an authorised strength of seven lakhs — Army 5,31,900, Navy 49,100, Air 52,000 and Girls 67,000.

WELFARE OF EX-SERVICE-MEN

The Director-General of Resettlement in the Ministry of Defence looks after the resettlement of ex-Servicemen in government and private services, vocational and technical trades, land colonies and transport services. The central government has reserved 10 and 20 per cent in Grades 'C' and 'D' posts respectively under it. The percentage in the central public sector undertakings in these categories is 14½ and 24½ per cent respectively. The state government have also reserved a certain percentage of vacancies for the ex-Servicemen. To encourage self-employment, several schemes are being implemented in stages. These include establishment of ex-Servicemen's co-operative industrial estates in selected areas, setting up of industrial and shopping centres

by using surplus military land, reservation of factory plots and formation of special industry projects. There are also other schemes in operation which train ex-Servicemen who prefer employment in professions needing background expertise and knowledge. Recently, an 'on-the-job Training' programme has been launched under this programme selected retiring personnel are being imparted nine months intensive training in ten trades in public sector undertakings. These include training in industrial and agricultural skills, animal husbandry, teaching and social work. The Directorate also helps ex-Servicemen in procuring new vehicles, tractors, surplus army vehicles, repairable duplicators and typewriters and agencies of products of public sector undertakings like fertilizers, tea, cement, cooking gas, steel and textiles. For those having farming background a scheme has been taken up to settle them in the Great Nicobar Island in the Bay of Bengal and about 327 ex-Servicemen have already been settled.

An important organisation which assists ex-Servicemen and their families, in close liaison with the local administration, is the Soldiers', Sailors' and Airmen's Board. The Board, with its headquarters in New Delhi, Co-ordinates the activities of the corresponding State Boards. A number of central funds like the Flag Day Fund, the Armed Forces Benevolent Fund and the Armed Forces Reconstruction Fund are also used for the rehabilitation of ex-Servicemen.

To meet the socio-economic requirements of individuals on retirement and to provide financial assistance to the bereaved families, the government has introduced a Group Insurance Scheme with normal premium. The scheme is compulsory and covers death in war.

REHABILITATION OF WAR VICTIMS

Following the Indo-Pak war in December 1971, both the central and state governments formulated a number of schemes to extend benefits and facilities to the war-bereaved families, particularly the widows, the disabled and their dependents. A special organisation in the Ministry of Defence has been created to co-ordinate action on the various schemes. Among the important central schemes is one which allows liberal pension concessions for the widows and families of officers and men killed in action and for those disabled. The scheme, which came into operation from 1 February 1972, is more liberal than any scheme elsewhere in the world and covers all those affected in the military operations since the Pakistani aggression in Jammu and Kashmir in 1947. This apart, the central government is to meet the full cost of education up to the first degree of the dependents of all the personnel of the defence and para-military forces killed or permanently disabled. It would also bear the full cost of such dependents as have already taken up post-graduate courses.

Other schemes, which are in addition to existing concessions, relate to priority in obtaining employment under the central government and public undertakings. Disabled servicemen are entitled to concessions in age, educational qualifications and medical standards. Up to two family members of each serviceman killed in action would be given Class III and Class IV jobs under the Ministry of Defence without registration at the Employment Exchanges. Seats have also been reserved for them in technical institutions.

State schemes include cash grants, *ex-gratia* allotment of land for agricultural purposes and residential plots on concessional rates.

By a constitutional amendment in 1976, the technical, medical and university level education has become the joint responsibility of the centre and state governments. The union government, however, continues to be directly responsible in certain areas such as co-ordination and determination of standards in research, scientific, technical and higher educational institutions. The central Ministry of Education is directly responsible for administration and maintenance of the central universities of Aligarh, Banaras, Delhi, Hyderabad, Jawaharlal Nehru, North Eastern Hill and Visva Bharati. The institutions for scientific or technical education financed by the Government of India and declared by Parliament to be institutions of national importance are also the direct responsibility of the ministry. In addition, the ministry shares the responsibility for educational planning jointly with state governments. A special responsibility of the union government is the promotion of education of the weaker sections, particularly, **scheduled castes** and **scheduled tribes**.

For the discharge of these specific responsibilities, the ministry has set up statutory organisations like the University Grants Commission, Indian Institutes of Technology and other autonomous organisations at the national level like the National Council of Educational Research and Training, which are fully financed by the Government of India. The five Indian Institutes of Technology administered by the union government form the apex institutions for engineering education and research. The other organisations in this field include the 15 regional engineering colleges, four institutes of management and five technical teachers training institutes. The ministry is also running about 323 Kendriya Vidyalayas (central schools) in different parts of the country. Two of these *Kendriya Vidyalayas* are located outside the country.

POLICY

An Education Commission was appointed in 1964 with Dr D. S. Kothari as chairman to advise the central government on the national pattern of education and general principles and policy for the development of education at all stages and in all its aspects. Based on the report of the Commission, the government formulated a national policy on education which was issued in the form of a government resolution in 1968. The education system, prevalent now in India, is largely based on this policy.

A working group on education, set up by the government in 1980, has recognised education as a crucial input in the process of human resource development. Economic and social development plans of the country have invariably stressed that for the improvement of the quality of life of every individual there has to be an investment in man. The government is, therefore, keen that education should find its right place in national planning and the investments in education should reflect its pivotal role. In realisation of this basic purpose, educational systems and programmes are expected to be redirected towards a set of goals and tasks among which the most important are: (i) to guarantee equality of opportunity for all in education to improve their quality of life and to participate in the tasks of promoting the general well-being of the society; (ii) to afford to all young people and adults irrespective of age, the means for self-fulfilment within the framework

of a harmonious development which reflects the needs of the community; (iii) to provide for a continuous process of lifelong education for their physical, intellectual and cultural development and for inculcating capabilities to cope with and influence social changes; (iv) to establish dynamic and beneficial links between education, employment and development with due regard for the economic and social aims of community; and (v) to promote the values of national integration, secularism, democratic way of life and dignity of labour.

PATTERN

The Education Commission had suggested a uniform (10+2+3) pattern of 15 years' duration leading to the first degree (10 years of high school education, two years of higher secondary education and three years for the first degree course). In the National Policy, 1968, this pattern was adopted.

The new pattern of school education has been adopted in Andhra Pradesh, Assam, Bihar, Gujarat, Jammu & Kashmir, Karnataka, Kerala, Maharashtra, Manipur, Nagaland, Orissa, Sikkim, Tamil Nadu, Tripura, West Bengal, Andaman and Nicobar Islands, Arunachal Pradesh, Chandigarh, Dadra and Nagar Haveli, Delhi, Goa, Daman and Diu, Lakshadweep and Pondicherry. Though the states of Meghalaya, Uttar Pradesh and the union territory of Mizoram have 10-year school pattern followed by 2-year pre-university/intermediate, they have not introduced the new pattern. Haryana, Himachal Pradesh, Punjab and Rajasthan have agreed, in principle, to adopt the new pattern.

PLANS AND EDUCATION

In the three decades of planned development since 1951, the number of educational institutions has more than doubled, while the number of teachers and students has gone up by about four times. The achievements during the last three decades and targets of the Sixth Plan are given in table 5.2. Plan Expenditure on education also went up from Rs 153 crores in the first plan to Rs 1,330 crores in the Fifth Plan. Table 5.3 gives the details of expenditure and outlays during the various plan periods.

The Sixth Plan (1980-85) includes an outlay of Rs 2,524 crores for education. Its distribution between centre and states and among the major sectors of education is given in table 5.1.

TABLE 5.1
CENTRE AND
STATE-WISE
DISTRIBUTION
OF OUTLAY

Sector	(Rs crores)		
	Centre	States	Total
General education	515.75	1,646.48	2,162.23
Technical education	168.00	109.61	277.61
Art and culture	51.00	32.90	83.90
TOTAL	734.75	1,788.99	2,523.74

Besides providing adequately for the development of education at all stages, the Sixth Plan lays emphasis on improvements in the quality of education to make it more relevant to life and the development of proper linkages between education, employment and national development. Programmes of universalisation of elementary education and adult education aim at eradication of illiteracy. Programmes of vocationalisation at secondary and higher secondary stage and measures for the improvement in the quality of education aim at establishing dynamic and beneficial linkages between education and economic and social development of the country. It is also proposed to remove

TABLE 5.2

ACHIEVEMENTS AND TARGETS AT DIFFERENT LEVELS OF EDUCATION

	1950-51	1955-56	1960-61	1965-66	1979-80 ¹	Sixth Plan targets 1984-85
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Number of pupils in classes I to V (lakhs)	191.5	251.7	349.9	504.7	710.0	827.0
Percentage thereof to total population in age group 6—11	42.6	52.8	62.4	76.7	83.6	95.2
Number of pupils in classes VI to VIII (lakhs)	31.2	42.9	67.0	105.3	195.0	258.0
Percentage thereof to total population in age group 11—14	12.7	16.5	22.5	30.8	40.2	50.3
Number of pupils in classes IX to XI/XII (lakhs)	12.2	18.8	28.9	50.4	96.7	—
Percentage thereof to total population in age group 14—17	5.3	7.4	10.6	16.2	21.1	—
Number of pupils at the university stage—arts, science and commerce (lakhs)	3.6	6.3	8.9	14.9	31.3	—
Percentage thereof to total population in age group 17—23	0.8	1.4	1.8	2.7	4.0	—
Percentage of students reading science at university stage	37.8	33.0	26.9	29.5	25.0	—
Number of primary/junior basic schools	2,09,671	2,78,135	3,30,399	3,91,064	4,78,249	—
Number of middle/senior basic schools	13,596	21,730	49,663	75,798	1,14,720	—
Number of high/higher secondary schools	7,288	10,838	17,257	27,477	46,043	—
Number of multipurpose schools	—	255	2,115	2,386	—	—
Number of training schools	782	930	1,138	601	859	—
Number of training colleges	53	107	478	1,272	501	—
Number of arts, science (including research institutions) and commerce colleges	542	772	1,122	1,788	3,336 ²	—
Number of universities	27	32	45	64	108	—
Number of teachers in primary schools	5,37,918	6,91,249	7,41,515	9,44,377	13,11,931	—
Percentage of trained teachers in primary schools	58.8	61.2	64.1	70.5	86.8	—
Number of teachers in middle schools	85,496	1,48,394	3,45,228	5,27,754	8,35,292	—
Percentage of trained teachers in middle schools	53.3	58.5	66.5	76.9	88.9	—
Number of teachers in high/higher secondary schools	1,26,504	1,89,794	2,96,305	4,79,060	8,59,359	—
Number of teachers in universities, arts and science colleges	18,648	27,883	41,759	66,882	—	—

¹Provisional²Excludes Research Institutions.

TABLE 5.

EXPENDITURE ON EDUCATION IN FIVE PLANS AND OUTLAY FOR SIXTH PLAN

(Rs. crores)

Major Heads	1	2	Sixth Plan 1980-85	
			Outlay	Percentage
			3	4
(i) General education				
Elementary education	.	1,005	905	36
Secondary education	.	594	420	17
University education	.	658	486	19
Adult education	.	—	128	5
Cultural programmes	.	571	84	3
Other educational programmes	.	3712	223	9
Total :	.	2,685	2,246	89
(ii) Technical education	.	446	278	11
Grand Total .	.	3,131	2,524	100

¹Expenditure for First Plan included under general education.²Includes adult education.

regional disparities in the educational development and provide equal opportunities for all sections of the society. (Lakhs)

TABLE 5.4
ENROLMENT
TARGETS AND
ACHIEVEMENTS IN
FIFTH PLAN
AND SIXTH PLAN

Age groups			Fifth Plan Target	1977-78 (Position)	1979-80 (Position)	1984-85 (Target)
6—11	Classes I—V	Boys	463.00 (111.2)	431.97 (99.3)	438 (100.2)	484 (108)
		Girls	308.00 (79.1)	269.53 (65.4)	272 (65.2)	342 (81)
	Total		771.00 (95.7)	701.50 (82.8)	710 (83.6)	826 (95)
11—14	Classes VI—VIII	Boys	140.00 (59.0)	120.31 (49.7)	130 (52.0)	166 (63)
		Girls	71.00 (32.2)	57.36 (25.3)	65 (27.7)	92 (37)
	Total		211.00 (46.1)	177.67 (37.9)	195 (40.2)	258 (50)

Note : Figures in brackets indicate enrolment as percentage of the population of the relevant age-groups.

ELEMENTARY EDUCATION

Provision of universal, free and compulsory education for all children up to the age of 14 is a Constitutional responsibility according to Article 45. Education in Classes I-V is free in government schools and schools run by local bodies in all parts of the country. It is also free in classes VI-VIII in all states except for boys in Orissa, Uttar Pradesh and West Bengal. All states except Himachal Pradesh, J&K, Kerala, Madhya Pradesh, Orissa, Rajasthan, Manipur, Meghalaya, Nagaland, and Tripura have enacted legislation for compulsory education. As for union territories, such legislation is available in Delhi, Andaman & Nicobar Islands and Chandigarh.

TABLE 5.5
THE PROGRESS
ACHIEVED TILL
1979-80

Enrolment		(lakhs)		Percentage
Classes I—V	Boys	438		100.2
	Girls	272		55.9
	Total	710		83.6
Classes VI—VIII	Boys	130		52.0
	Girls	65		27.7
	Total	195		40.2
Classes I—VIII	Boys	568		82.3
	Girls	337		52.2
	Total	905		67.8

Till 1980-81, the beginning of the new Sixth Five Year Plan, the strategy had been to universalise primary education (classes I to IV/V) in the age-group 6-11 before making serious attempts to universalise middle school education (Classes V/VI—VII/VIII) in the age-group 11—14. The Sixth Plan 1980-85 has emphasized the universalisation of elementary education (classes I to VIII in the age-group 6—14) within a time frame of not more than 10 years. An important component of the strategy for universalisation is to cover as much as possible of the total non-enrolled and drop-out children by non-formal part-time education. Special central assistance to the tune of Rs 25 crores is to be given to the educationally backward states which have three-fourths of the non-enrolled children.

**SECONDARY
EDUCATION**

Education is free up to lower secondary (up to class X) stage in 11 states and 7 union territories, namely Andhra Pradesh, Assam, Bihar, Gujarat, Jammu and Kashmir, Karnataka, Kerala, Nagaland, Tamil Nadu, Tripura, West Bengal, Arunachal Pradesh, Andaman and Nicobar Islands, Dadra and Nagar Haveli, Goa Daman and Diu, Lakshadweep, Mizoram and Pondicherry. It is free for girls in Madhya Pradesh, Manipur, Orissa, Rajasthan, Sikkim and Uttar Pradesh. In Chandigarh, lower secondary education is free in rural areas only. Children belonging to scheduled castes and scheduled tribes get free education in all the states/union territories up to class X.

Education at the higher secondary stage (classes XI-XII) is free in Gujarat, Jammu and Kashmir, Nagaland, Tamil Nadu, Tripura and in the union territories of Arunachal Pradesh, Andaman and Nicobar Islands, Dadra and Nagar Haveli, Lakshadweep, and Pondicherry. Besides, education at this stage is also free for girls in Madhya Pradesh, Manipur, Punjab and Chandigarh.

**UNIVERSITY
AND HIGHER
EDUCATION**

Higher education is imparted mainly through universities established either under Acts of Parliament or those of State Legislatures and through a large number of arts, science, commerce and professional colleges affiliated to them. Besides, there are research institutes in several specialised fields and other institutions which are deemed to be universities under the University Grants Commission Act, 1956. There are, at present, 108 universities, and 11 institutions deemed to be universities. Besides, 9 institutions have been declared by Parliament to be institutes of national importance.

**University Grants
Commission**

The University Grants Commission, set up initially in 1953, promotes and coordinates university education and determines and maintains standards of teaching, examination and research in the universities. It has the authority to enquire into the financial needs of the universities and to make appropriate grants to different universities. It advises on the establishment of new universities and other matters pertaining to higher education as may be referred to it.

**VOCATIONAL
AND
TECHNICAL
EDUCATION**

Training is imparted in 32 engineering and 23 non-engineering trades approved by the National Council for Training in vocational trades to young people within the age group of 15 to 25 years. For the purpose, 356 permanently and 139 provisionally affiliated government Industrial Training Institutes have been established in various parts of the country. Besides, there are 156 permanently and 180 provisionally affiliated private Industrial Training Institutes. These are affiliated to the National Council for Training and Vocational Trades. The overall seating capacity of these institutes is 1.92 lakhs. Period of training ranges from one to two years. These Institutes are also used as basic training centres for the apprenticeship training programmes. The 136 trades designed under the Apprentices Act 1961 (Amendment upto January 1981), follow national classification of occupation. Till the month of March 1981, there were 1,69,559 seats, of which 1,19,842 had been utilised.

There are six central training institutes for training of instructors under the Directorate General of Employment and Training. Further, to meet the requirement of advanced/specialised craftsmen in industry the following institutions have been established.

(i) Advanced Training Institute, Madras; (ii) Foreman Training Institute, Bangalore; (iii) Central Staff Training and Research Institute, Calcutta; and (iv) Advanced Training Institute in Electronics, Hyderabad.

Trained manpower at middle-level is needed for a wide range of professional duties, for application of knowledge in field operation, in production and construction, testing and development etc. For this purpose, diploma courses are offered in 337 polytechnics with an annual enrolment capacity of about 50,000 students. They offer a variety of specialisation in engineering and technical as well as in a few non-technological fields. The courses are normally of 3 years duration where full-time institutional instruction is offered and 3½ to 4 years when instruction is on a "sandwich" pattern or on part-time basis.

For the professional engineers and technologists, 159 engineering colleges offer courses leading to Bachelor's degree in engineering and technology. The total admission capacity annually for these courses is about 25,000.

The number of institutions offering post-graduate courses is 76 with annual intake capacity of about 5,500. Facilities also exist at the centres, offering part-time courses at the post-graduate level for those who are already in service. Duration of such courses normally is three years.

Institutions numbering about 30, mostly in the university sector are offering management courses both at the first degree and advanced levels. The courses offered at the various institutions cover training at the Master's degree level for the management and business administration degree with an annual admission capacity of about 1,200.

The vocational training/craftsmen courses are offered at the industrial training institutes. The diploma courses are offered in the polytechnics which are widely spread over all the states and union territories and are affiliated to the respective State Boards of Technical Education which lay down in general the levels and standards of the courses and guide the system of evaluation of the students appearing at the examination.

Five national institutions at Bombay, Kanpur, Kharagpur, Madras and New Delhi, known as Indian Institutes of Technology provide facilities for higher level education and research in engineering and technology. These institutions admit about 1,200 students annually to under-graduate courses. Besides, these institutions along with the Indian Institute of Science, Bangalore admit nearly 2,000 students every year to the post-graduate courses and 1,500 research scholars. In addition, 70 other engineering colleges and university departments offer facilities for post-graduate courses and research with an annual intake of about 3,500 students. There are also 15 regional engineering colleges and a number of other technological institutions and polytechnics providing facilities for education in various branches of engineering and technology. For specialised courses such as mining and metallurgy, industrial engineering, forge and foundry and architecture, a number of centres have been established. To integrate engineering education with practical training, a number of engineering colleges and polytechnics are now offering 'sandwich' courses in collaboration with industry. The duration of such courses for degree

in engineering is 5½ years and for diploma 3½ years. To train teachers needed for polytechnics, there are four technical teachers training institutions located at Calcutta, Bhopal, Chandigarh and Madras.

In 1980, the number of institutions conducting degree and diploma courses in engineering and technology were 159 and 337 respectively as compared to 53 and 89 in 1951.

India is now in a position to meet the technical manpower requirements during the next two Five Year Plans with the level of facilities already created.

ADULT EDUCATION

The process of all-round national development in India has changed the concept of adult education significantly. It is no longer confined to traditional literacy in 3 R's alone. The changing socio-economic scene in the country demands overall development of the human resources. While determined efforts are being made to universalise elementary education up to the age of 14 years, educational facilities are being extended to adult population to remedy their educational deprivation and to enable them to develop their potentiality. Thus, the government has resolved to wage a clearly conceived, well-planned and relentless struggle against illiteracy to enable the masses to play an active role in social and cultural change. Literacy is now being recognised as an integral part of an individual's personality. The National Adult Education Programme formally launched on 2 October 1978 aims at providing adult education facilities to cover about 10 crore illiterate persons in the age group 15-35 within the period from 1978-79 to 1983-84. The major objective of the programme is to develop the country's human resources in this vital age-group and enable the vast majority of illiterate persons to participate effectively in the process of national development. The programme, besides providing basic literacy skills, also aims at upgrading the functional skills and creating social awareness among the illiterate masses.

To advise the government in the formulation of policies, a National Board of Adult Education and State Boards of Adult Education have been set up at national as well as state-levels. District level committees have also been set up in most of the states to ensure proper coordination and for overseeing the implementation of the programme at the local level.

Assistance to voluntary organisations working in the field of adult/non-formal education is one of the most successful programmes of the government which continued during 1980-81. Several voluntary agencies had been approved for financial assistance to run 29,000 centres in the country. Central financial assistance was continued to 241 projects, under the scheme of Rural Functional Literacy Projects.

WOMEN'S EDUCATION

In recognition of the importance of education of girls and women in accelerating socio-economic development, the government has formulated a variety of measures from time to time in this direction. Special programmes for promotion of girls' education were initiated as early as 1957-58. The main schemes initiated were provision of attendance scholarships for girl students, appointment of school mothers, construction of quarters for women teachers and payment of stipend for teachers training courses. It was observed that there had been gradual but progressive increase in the enrolment of girls over the plan periods

and that the gap in the education of boys and girls appears to have been narrowing down during the last two decades. During the ten year period ending 1978-79, there had been an annual growth of 3.2 per cent in enrolment in classes I-V and 5.5 per cent in classes VI-VIII. The percentage increase in the girls' enrolment for these two segments was 1.6 per cent and 5.1 per cent respectively during the same period.

The national policy statement on adult education programme, gives the highest priority to the education of adult women in the age group 15+. It aims at (i) making women and men more conscious of their rights and responsibilities, the implication of law governing women's status in society and developing an understanding about the various manifest and concealed ways which cause women's oppression; (ii) assisting women to achieve economic viability through acquisition of literacy and other necessary skills and resources; (iii) providing access to knowledge in other areas, particularly in health, child care, nutrition, family planning etc. and (iv) assisting women to form their own groups for learning and productive activity and to strengthen their participation and voice in the developmental process.

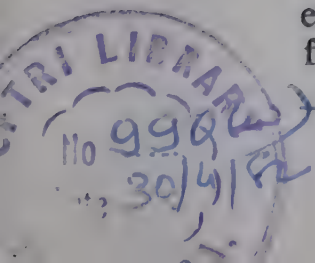
There were about 3.64 crore girls at schools in 1978-79—2.82 crores in classes I to V, 61.9 lakhs in classes VI to VIII and 19.7 lakhs in IX to secondary classes.

LITERACY

In 1951, 16.6 per cent of the people in India could read and write. The percentage went up to 29.45 in 1971 and to 36.17¹ in 1981. According to the 1981 census¹, Kerala had the highest literacy rate, 69.17 per cent, Tamil Nadu and Maharashtra came next with 47.37 and 45.78 per cent respectively. Chandigarh led the union territories with a percentage of 64.68. Despite the rise in the literacy rate and the total number of literates, the number of illiterates has increased from 37.2 crores in 1971 to 44.58 crores in 1981 due to fast growing population. Rural folk and women form the bulk of illiterates. Kerala topped the states in women's literacy also, the percentage being 64.48. Maharashtra with 35.08 and Punjab with 34.14 came second and third respectively. Among the union territories, first place was held again by Chandigarh with 59.30 per cent.

RURAL HIGHER EDUCATION

The scheme of rural higher education was launched in 1956 with the object of providing higher education, after the secondary stage, to the rural youth and inculcating in them a spirit of service to the community and sympathy for the rural way of life, besides training them for careers in the rural development programmes of the central and state governments. All the rural institutes under this scheme which were earlier affiliated to the National Council for Rural Higher Education, have now been affiliated to the neighbouring universities and the concerned state governments. One of the rural institutes, namely, the Gandhigram Rural Institute in Madurai district (Tamil Nadu) has been declared to be a "deemed" university. This Institute has also been entrusted with the responsibility of conducting the examination of private candidates on behalf of the National Council for Rural Higher Education.



SCHOLARSHIPS FOR FOREIGN STUDENTS

Foreign students are offered scholarships for higher education and training in India under various schemes. Under the General Cultural Scholarship Scheme, the government awards 180 scholarships every year to the nationals of selected African, Asian and other foreign countries. Scholarships have been awarded in the fields of agriculture, engineering and technology, medicine, pharmacy, arts and humanities. Under a scheme formulated in 1972-73, 100 scholarships were awarded to the nationals of Bangladesh. At present, about 250 such students are pursuing their studies in India. Scholarships are also awarded to nationals of those countries with whom India has Cultural Exchange Agreements. Other schemes include Reciprocal Scholarship Scheme, Commonwealth Scholarships/Fellowship Plan—Indian Awards and Technical Cooperation Scheme of the Colombo Plan.

RESEARCH AND TRAINING

The National Council of Educational Research and Training (NCERT), which was established in 1961, acts as the principal agency of academic advice to the Ministry of Education on matters pertaining to qualitative improvement of school education and undertakes the implementation of the policies and programmes of the Ministry. The Council works in cooperation with the state education departments and universities and other institutions for promoting school education. It also maintains close contacts with international organisations. The results of the investigations conducted by the Council are made available to the public through books, journals and other literature.

The Council has the National Institute of Education at New Delhi, a research organisation which consists of various academic departments and units. The Council also runs four regional colleges of education at Ajmer, Bhopal, Bhubaneswar and Mysore. These colleges promote and participate in a large number of extension activities in the field of school education and conduct Summer Institutes, particularly for science teachers.

The Council also maintains a network of 18 field offices to keep a close liaison with state governments. These field offices keep the Council informed of the programmes under implementation in the states and assist the states in utilising the work done by the Council, especially in the field of curriculum development. The Council has also developed the new curriculum and syllabi for classes I to XII for the 10+2+3 pattern of education. The Council brings out model textbooks in all the subjects at the school stage in English and Hindi. It also conducts the National Talent Search Examination and awards scholarships to bright students for further study. These books are used in the states in adapted form. The Council brings out three journals in the field of school education.

The Council also runs a centre for educational technology at New Delhi. It was set up in 1972-73 for undertaking research and development work in the effective production and utilisation of media in education, development of appropriate technology and delivery systems, carrying out training programmes relating to various aspects of educational technology and evaluation of educational materials.

Indian Council of Historical Research

The Indian Council of Historical Research, New Delhi, set up in 1972, enunciates and implements a national policy of historical research and encourages scientific writing of history. It acts as a forum for

historians for exchange of views. It operates research projects, offers fellowships and publishes theses, monographs and translated source materials and important history books.

INDIAN COUNCIL OF SOCIAL SCIENCE RESEARCH

The Indian Council of Social Science Research, an autonomous organisation established by the Government of India in 1969, is composed of 25 members; a chairman, 18 social scientists, 6 representatives of the government and a member-secretary (appointed by the ICSSR with the approval of the government). Its objectives are to review the progress of social science research from time to time, to give advice to its users in government or outside, to sponsor research programmes and give grants to institutions and individuals for research in the field of social sciences. The Council has six regional centres located at Bombay, Hyderabad, Calcutta, Shillong, New Delhi and Chandigarh. At present, the Council gives grants-in-aid to 17 research institutes.

Indian Institute of Advanced Study

The Indian Institute of Advanced Study, Simla, set up in 1965, is a Centre for advanced research in the humanities, social sciences and natural sciences.

It is a community of scholars engaged in exploring new frontiers of knowledge aimed at making major conceptual developments and at offering inter-disciplinary perspectives on questions of contemporary relevance. An essential part of the Institute's activities is the organisation of seminars and workshops in which outstanding scholars and experts are invited. To ensure speedy and wide dissemination of the contents and conclusions of seminars and workshops and of research findings, the Institute operates its publication programmes which include transactions of the Institute, monographs and occasional papers. A committee appointed by the government has recently reviewed the functioning of the Institute and recommended several measures for its restructuring.

DEVELOPMENT OF HINDI

The central Ministry of Education runs several programmes for the enrichment and spread of Hindi. Among these are : (a) evolution and finalisation of Hindi terminology; (b) preparation of dictionaries; (c) preparation of linguaphone records, language lessons and tapes; and (d) publication of popular books in collaboration with private publishers. For the spread of Hindi, the activities include (i) rendering financial assistance to governments of non-Hindi speaking states for the training and appointment of Hindi teachers in their schools; (ii) encouraging the learning of Hindi on voluntary basis through correspondence courses; (iii) providing financial assistance to voluntary organisations in non-Hindi speaking states for holding Hindi teaching classes; (iv) giving awards to Hindi writers belonging to non-Hindi speaking states; and (v) propagation of Hindi in other countries. Through the *Kendriya Hindi Sansthan*, Agra, the central government promotes the development of improved methodology for teaching Hindi to non-Hindi speaking students, preparation of suitable teaching materials, and development of improved teaching methods. Through the Central Hindi Directorate, the government runs programmes relating to the publication of Hindi books and their free distribution in non-Hindi speaking states.

MODERN INDIAN LANGUAGES

Under the scheme for the development of modern Indian languages, the central government gives financial assistance to voluntary organisations for bringing out publications like encyclopaedias, dictionaries, books of knowledge and books of scientific interest. Grants are given for holding literary conferences, seminars and exhibitions for the development of Indian languages. Assistance is also given by way of purchasing copies of printed publications. State governments are given special help for the production of university-level books in regional languages. A Bureau for promotion of Urdu called *Taraqi-e-Urdu* Board has been set up for the production of educative literature in Urdu. A scheme for the publication of such books in Sindhi is also in operation.

The government also provides facilities for the study of languages other than the mother-tongue. For this, the Central Institute of Indian Languages, Mysore, develops improved teaching methodology, prepares teaching materials and trains second language teachers at the regional language centres of the Institute. The Institute also conducts research necessary for this purpose. The study of tribal languages is one of its important functions.

Foreign Languages Institute

The Central Institute of English and Foreign Languages, Hyderabad, trains teachers in the teaching of English and foreign languages, development of teaching methodology and of teaching materials for use by Indian teachers and students of these languages. A regional centre has been set up at Shillong for accelerating its activities in the eastern region. From July 1973, the Institute is deemed to be a university.

YOUTH SERVICES

The main objectives of the central government's youth policy are to provide opportunities to young people to make constructive contribution to society, fulfil youth aspirations by providing avenues for young people to be actively involved in the national mainstream and enable them to contribute fruitfully in the task of national reconstruction.

Nehru Yuvak Kendras

To mobilise student and non-student youth for constructive nation building activities 255 youth centres known as *Nehru Yuvak Kendras* have been sanctioned in various states and union territories. Of these, 192 had become operational by the end of 1980 and the remaining are in the process of establishment. The activities of these centres include non-formal education for young people in the age group 15-35 and their participation in creative activities, development of competitive sports, physical education, encouragement of talent in the field of sports, particularly in the rural areas and community service involving youth participation in eradication of illiteracy, health education and sanitation programmes and help in carrying out land reforms.

National Service Scheme

The National Service Scheme, launched in 1969, aims at providing under-graduate students with opportunities for meaningful social service benefitting the community in a variety of fields. Such activities include youth participation in organising literacy classes, constructive development work with a potential of creating community assets, youth involvement in relief operations, slum clearance and

organisation of mobile hospital service. During 1979-80, about 4.5 lakh students participated in the scheme.

SPORTS AND GAMES

Pending finalisation of the new national policy of sports, which is still under formulation in consultation with the All India Council of Sports the Government of India's programme for promotion of physical education and sports during the year continued to be implemented within the broad framework of the guidelines laid down in the National Policy on Education, adopted by Parliament in 1968.

The two-fold objective of the present programme is participation in the mainstream of internationally current programmes of physical education and sports simultaneously with broad based mass participation and development of country's traditional and indigenous activities in this field. In the context of India's decision to host the IX Asian Games, 1982, follow-up action was also initiated during the year by the government as well as the Indian Olympic Association to provide the necessary infrastructure and facilities for the forthcoming Asian Games.

All India Council of Sports

The All India Council of Sports which advises the central government on matters relating to the promotion of sports and games continued to function. The Council finalised the draft on national sports policy and submitted it to the government for consideration.

In consultation with the Council, the government provided financial assistance to national sports federations/associations for visits of Indian sports teams abroad and vice-versa, organising of national championship and holding of coaching camps. Financial assistance was also provided to the state sports councils for the development of physical facilities in sports, promotion of coaching programmes, for purchase of equipment and establishment/maintenance of rural sports centres, development of playgrounds etc.

National Sports Organisation

The National Sports Organisation aims at promoting excellence among college students in selected fields of sports and games. The scheme is implemented through the University Grants Commission, Association of Indian Universities and the Netaji Subhas National Institute of Sports. The function of the organisation includes construction of gymnasias, development of play grounds in universities and colleges, holding coaching cum sports competitions among universities and awarding 100 scholarships every year to outstanding college and university sportsmen and women.

National Institutes of Sports

There are two National Institutes for the development of physical education and sports in the country. The Netaji Subhas National Institute of Sports, Patiala, along with its South Centre at Bangalore, conducts the coaching courses in different sports disciplines to train qualified coaches. The Institute is now also offering two year 'Master's Diploma Course in Sports' Coaching. Since its inception in 1961, it has produced 4,800 qualified coaches including 114 from foreign countries in various disciplines. The Institute also implements the national coaching scheme through a country-wide network of regional sports coaching centres being run in collaboration with the state sports councils and *Nehru Yuvak Kendras*. It also provides special coaching facilities for the national teams prior to their partici-

pation in international meets. It is actively associated with the preparations for 1982 Asian games which India is hosting in November 1982.

The Lakshmibai National College of Physical Education, Gwalior, provides teacher training facilities for three year Degree course, for post graduate studies and research in physical education. It also runs a three-year summer course for in-service personnel leading to the Master's Degree of physical education. The College has so far turned out over 1,500 graduates and about 340 post graduates in physical education.

National
Physical
Fitness
Programme

The scheme which was introduced in 1959 under the nomenclature of "National Physical Efficiency Drive" to popularise among the people the concept of physical fitness and also to arouse their enthusiasm for higher standard of physical efficiency and achievement has now been renamed as the 'National Physical Fitness Programme.' To make coverage under the Programme more broad-based, the categories of participants has been enlarged and revised to include sub-juniors, juniors, seniors and adults. The Scheme is being implemented in collaboration with the state education/sports departments and selected central agencies. At the central level the Lakshmibai National College of Physical Education, Gwalior, continues to function as the central agency for the implementation of the programme.

IX Asian Games
1982

India is the founder member of the Asian Games Federation and the first Asian Games under the aegis of the federation were held in New Delhi in 1951. India would now be hosting the IX Asian Games in November 1982, after a span of 31 years. There would be twenty competitive sports events in the IX Asian Games. Of these, 19 are to be held in New Delhi and one, namely, yachting, at Bombay. The government has set up a steering committee under the chairmanship of central education minister to make necessary arrangements for the games and to make available the requisite facilities on time according to international standards.

Preservation of the cultural heritage of the country, inculcation of art consciousness among the people and promotion of high standards in the performing and creative arts are some of the objectives of the State policy. In keeping with this, the central and state governments strive for the promotion of art and culture through national and regional academies of art, dance, drama, music and letters. These institutions and the Department of Culture at the centre are helped in their objective by the media of mass communication and voluntary agencies. Apart from this, some eminent persons associated with the fine arts are, from time to time, nominated by the President of India to Rajya Sabha in recognition of their standing in these fields.

VISUAL ARTS

Painting

Important traditions of Indian painting include the murals of Ajanta, Ellora and other frescoes, the Buddhist palm leaf manuscripts, the Jain texts, the Deccan, the Mughal, the Rajput and the Kangra schools. The Bengal renaissance and the modern trends bring it to the present. While the modern trends in Europe and elsewhere have influenced modern Indian painting, Indian folk art and themes have also been successfully revived and accepted.

Architecture and Sculpture

Till the advent of modern trends, architecture and sculpture in India were inspired mainly through the religious motif. The best examples are the temples, mosques, fortresses, palaces and other monuments which dot the Indian landscape. Massive buildings that have come up after independence and the city of Chandigarh symbolise the beginning of the modern period of Indian architecture. Contemporary Indian sculptors have contributed substantially to the creation of a new awareness of mass, volume and space.

Handicrafts

From coarse carpets to finest muslins, exquisite cotton and silk saris, embroidered shawls, impressive creations in metals, unglazed and glazed pottery, fabulous jewellery—heavy tribal or costume or filigree—rugged or delicate woodwork, dolls and puppets are but a few creations of the rich and varied repertoire of Indian craftsmanship. The main inspiration is tradition handed down from generations. The heritage of tribal and village activity is sustained by providing economic support to the artisans and by export promotion. Every year, the best among the craftsmen are honoured by the nation as master craftsmen.

Lalit Kala Akademi

To promote the understanding of Indian art both within and outside the country, the Government of India established the Lalit Kala Akademi (National Academy of Fine Arts) in 1954. The Akademi strives to promote this objective through exhibitions, publications, work-shops and camps. Every year it holds a national exhibition and every three years, the Triennale-India, an international exhibition. The Akademi has brought out a series of monographs and portfolios on ancient Indian art and published the results of new research in Indian arts in its journal 'Lalit Kala'. It has also undertaken a programme to copy frescoes and murals in caves, temples, forts and palaces.

The Akademi's publication programme includes a bi-annual art journal "Lalit Kala Contemporary", monographs on contemporary Indian artists and large multi-colour reproductions of paintings, sculptures and graphics.

The Akademi organises artists' camps, seminars and lectures and gives grants to recognised art organisations in the country. It honours eminent artists by making them Fellows. So far, 18 persons have been conferred Fellowships. Awards are given to artists on the occasion of the national exhibition.

The Akademi has a permanent artists' studio complex with facilities for training and practise in painting, ceramics, graphics and sculpture. It has a regional centre at Madras.

National Gallery of Modern Art

The National Gallery of Modern Art, set up in 1954, has a collection of over 3,000 works of art, representing various styles, spanning more than a century. Among the distinguished Indian artists whose works are represented at the gallery are: Raja Ravi Varma, Abanindranath Tagore, Rabindranath Tagore, Gaganendranath Tagore, Nandlal Bose, Amrita-Sher-Gil, D. P. Roy Chowdhury, M. F. Hussain, N. S. Bendre, Biren De, Shanti Dave, G. R. Santosh and J. Swaminathan.

The collection includes sculptures, graphics and paintings by international modern artists like Jacob Epstein, Giorgio de Chirico, Sonia Delaunay, A. Tapies, Se Duk Lee, D. C. Daja and Peter Lubarada.

PERFORMING ARTS

Music

There are two main schools of classical music, namely, Hindustani and Karnatak. Both schools continue to survive mainly through an oral tradition being passed on by the teacher to the disciple and this has led to the existence of family traditions called the *gharanas* and the *sampradayas*.

In recent years there has been a great revival of interest in folk and tribal music which has been brought to the stage in cities. Growing in popularity is another category of music which has come to be known as light music.

The patronage to music is both state-supported and popular. The Sangeet Natak Akademi (National Academy of Music, Dance and Drama), All India Radio, films, voluntary organisations and cultural associations are the main agencies that have brought about a nationwide awareness and appreciation of music.

Dance

Dance in India has an unbroken tradition of over 2,000 years. Its themes are derived from mythology, legends and classical literature. There are two main divisions of Indian dance, namely, classical and folk. Under classical are those dance-forms which are based on ancient dance-discipline and have rigid rules for presentation. Among the leading forms of classical Indian dance are *Bharata Natyam*, *Kathakali*, *Kathak*, *Manipuri*, *Odissi* and *Kuchipudi*. *Bharata Natyam* has roots in Tamil Nadu. *Kathakali* is the dance-drama of Kerala. *Kathak* is the principal classical dance of North India and was revitalized as a result of the fusion of Mughal influence with Indian culture. The state of Manipur in the eastern region has contributed a delicate, lyrical style of dance called *Manipuri*. *Odissi* from Orissa, once practised as a temple dance, is today widely interpreted by artistes. *Kuchipudi* is a

dance-drama from Andhra Pradesh. Its themes are culled from the epics the *Ramayana* and the *Mahabharata*. The folk and tribal dances of India are of numerous patterns.

Both the classical and folk dances of India owe their present popularity to institutions like the Sangeet Natak Akademi and training institutes and cultural organisations in different parts of the country. To promote study and training in different forms of dance and music, the Akademi awards Fellowships to scholars, performers and teachers.

Theatre

Theatre in India is as old as her music and dance. The classical theatre survives only in a few parts of the country, and the folk theatre can be seen in its regional variants in practically every linguistic region of the country. There is also the professional theatre, which is mainly urban-oriented. Besides, a rich tradition of puppet theatre is found in various parts of the country. Among the many forms prevalent are the string puppets, rod puppets, glove puppets and leather puppets (shadow theatre).

There are several semi-professional and amateur theatre groups active in many large cities, performing plays in Indian languages and in English.

Sangeet Natak Akademi

The Sangeet Natak Akademi (National Academy of Music, Dance and Drama), which was set up in 1953, fosters the development of dance, drama and music. As part of its co-ordinating and promotional activities, it holds competitions, seminars and music festivals, presents awards to outstanding performing artistes, gives grants to institutions of music, dance and drama and extends financial help to traditional teachers and scholarships to students. It subsidises and publishes research works on performing arts.

In view of the many theatrical, musical and dance forms prevalent in the country, the Akademi has set up a special unit for surveying and documenting them. Its disc and tape library has the largest collection of Indian classical, folk and tribal music, and dance and theatre items.

The Akademi is running two national institutions for imparting training in dance and drama. These are the *Kathak Kendra*, New Delhi and Jawaharlal Nehru Manipuri Dance Academy, Imphal. The Akademi has also been helping in the resurgence of the puppet theatre in the country.

The Akademi operates a scheme under which prizes are awarded to books in various Indian languages and in English on music, dance and drama. It honours outstanding performing artistes by making them Fellows and presents annual awards.¹ It holds from time to time a theatre festival in which theatre groups from different parts of the country present their histrionic talent. The Akademi is exploring new avenues of research in music, including acoustics. Researches in the physical acoustics and psychological responses have been carried out both in the Akademi and by outside agencies.

The Akademi has a gallery of musical instruments, *Asavari*, where a large number of classical, folk and tribal musical instruments are on display. *Yavanika*, another gallery, houses a representative collection of fascinating masks, puppets and folk theatre costumes.

The first of a series of displays on specific themes in *Yavanika* has

¹ For awards, see Appendices.

begun with an exhibition on "Ramayana in Traditional Theatre" for the *Dussehra-Diwali* season. Such displays from the Akademi Archives are now organised to coincide with seasonal/national festivals.

A major task of the Akademi is the preservation and documentation of the folk/tribal performing arts. For this purpose it has a documentation unit engaged in filming photography, recording and documenting the arts in the various regions. The Akademi has an archival collection of a large number of films, photographs, slides and tapes of recorded music. The material collected and collated is available for research students and scholars.

National School of Drama

The National School of Drama, New Delhi, set up in 1959 as a constituent unit of the *Sangeet Natak Akademi* has been registered as an independent institution under the Societies Registration Act, 1860.

The activities of the School include training in the fields of acting, direction and production of drama, conducting and promoting research and survey in classical, traditional and modern drama, fostering cultural and academic contacts within India as well as other countries through exchange of personnel and research material.

Broadcasting

All India Radio has been contributing to bring about awareness and appreciation of Indian music—classical, light classical, folk and tribal.

The major programmes through which AIR propagates music are the weekly national programme of music; the weekly programme of classical music by young artists; the monthly national programme of regional (folk and light) music; the annual music competition to discover young talent and the annual music festival—the Radio *Sangeet Sammelan*.

The *Vividh Bharati* Service of AIR broadcasts popular film and light music.

Recorded excerpts of major musical festivals held in different parts of the country are also broadcast by AIR. Through overseas transmissions, it seeks to satisfy the cultural needs of Indian nationals living abroad. The music archives of AIR are among the most important collections of music records in the country.

LITERATURE

Rediscovery of ancient and medieval Indian literature and development of modern literature in the major Indian languages and in English mark the literary activities in present day India. A large number of literary periodicals and magazines, literary institutions and All India Radio have given impetus to the growth of modern Indian literature.

Sahitya Akademi

The Sahitya Akademi was set up in New Delhi in 1954 for the development of Indian letters. Some of the main functions of the Akademi are : translation of literary works from one Indian language to another and from non-Indian to Indian languages; publication of works on literary history and criticism, books of reference like bibliographies and biographies and works in Devanagari and other Indian scripts and popularisation of the study of literature among the people. The Akademi has regional offices at Bombay, Calcutta and Madras.

An important publication of the Akademi is the *National Bibliography of Indian Literature* (1901-1953) in four volumes, covering books of literary merit in all the major Indian languages and in English published in India or written by Indian authors. These cover English

and all the major Indian languages except Dogri, Konkani, Maithili, Manipuri, Nepali and Rajasthani for which a fifth volume is under preparation. The Akademi's publications on 31 December 1980 numbered about 1,300. The Sahitya Akademi publishes a bi-monthly journal in English, *Indian Literature*, and a half-yearly journal in Sanskrit, entitled *Sanskrita Pratibha*.

The Akademi has sponsored two series of publications, first, histories of literature of various languages of India and the second, sixty monographs entitled "Makers of Indian Literature" with a brief biography and literary assessment of writers spread over the entire country from the earliest times to the present day.

The Akademi honours eminent men and women of letters by electing them Fellows. It awards prizes to works of outstanding merit in English and in major Indian languages¹.

Encouragement to Young Talent

Young artists of outstanding promise in the age-group of 18-28 years are awarded 75 scholarships every year for advance training in *Hindustani* music, classical forms of Indian dances, traditional theatre, drama, painting and sculpture. A scholar gets Rs 350 a month for two years.

Talented Children

Talented children in the age-group of 10-14 years are awarded 100 scholarships every year for developing their talent in various fine arts such as music, dance, painting and sculpture. Twenty five scholarships are reserved for children belonging to *Gharanas/Sampradayas*. A sum of Rs 600 a year is paid to those who undergo training at the place of their residence and double that sum to those who have to shift to a new place for training. In both cases, tuition fee up to Rs 1,000 a year is also reimbursed.

Fellowships

To provide basic financial support to outstanding persons for creative work in various fields of the performing, the plastic and the literary arts, in the age-group of 25-65 years, 15 senior Fellowships and 35 junior Fellowships of the value of Rs 1,000 and Rs 500 respectively per month each tenable for two years, are being awarded every year since 1979-80. These Fellowships are given for specified schemes and projects either suggested by the artists themselves or selected at the initiative of the central government.

Financial Assistance to Old and Needy Artists

Persons distinguished in letters, arts and such other walks of life who are above 58 years of age and have an income of less than Rs 400 a month are considered for grant of financial assistance to the tune of Rs 200 a month.

BOOKS

India is the seventh largest producer of books in the world and ranks third, in the production of English titles, after USA and UK. About 12,000 titles were published during 1979.

National Book Trust

The National Book Trust (NBT), set up in 1957 as an autonomous organisation, produces and encourages the production of good literature and makes it available at moderate prices to libraries, educational institutions and the public. It also organises book fairs, exhibitions,

¹ For awards, see Appendices.

seminars and symposia. Since 1970, NBT has been subsidising the publication of university level books in English by Indian authors to serve the needs of student community. It had subsidised the publication of 358 books in different disciplines up to the end of December 1980.

Since its inception and up to the end of December 1980, NBT produced 998 books in English and in major Indian languages. The bulk of NBT's Publication Programme is covered under such series as 'India—the Land and the People', 'National Biography', 'Popular Science', 'World of Today', 'Folklore of India' and 'young India Library'. In addition, it brings out books of general nature outside the series. NBT operates two special projects, namely, the *Adhan-Pradhan* series which is intended for adult readers and the *Nehru Bal Pustakalaya* which provides supplementary reading for children. Both projects relate to national integration and provide communication channels on an inter-regional and inter-linguistic basis by translation of outstanding books in one Indian language into other major Indian languages. Up to December 1980, NBT had released 488 titles under the *Adhan-Pradhan* series and 672 titles under the *Nehru Bal Pustakalaya* Programme.

The Trust has also launched a new scheme for publication of reading material for the rural areas. This involves on-the-spot surveys to ascertain specific categories of reading material by the local people followed by preparation of material by local writers at workshops. A beginning has been made with Gujarat where a survey in some selected areas followed by a workshop of local writers was held in July 1980. Material thus prepared has been taken up for production.

The Trust has been organising annual book fairs on a national basis and regional book exhibitions. It has so far organised 10 national book fairs in important metropolitan cities and 90 regional book exhibitions.

During 1980-81, NBT has embarked on a programme of organising book festivals at the regional level. Two such book festivals one at Indore and the other at Cuttack were organised in 1980. The Trust in collaboration with Bombay Book Sellers and Publishers Association organised the Bombay book fair in December 1980.

World Book Fairs

The Trust has so far organised four world book fairs—1972, 1976, 1978 and 1980—in New Delhi. The Fifth World Book Fair is scheduled to be held in New Delhi in February 1982.

Export of Books

India, as a very large producer of quality books, has growing potential for exporting books. Books and publications worth about Rs 4.95 crores were exported during 1978-79. Efforts are being made to encourage the sale of Indian books abroad and to secure printing jobs. For publicising Indian books abroad, India participates in international book fairs, organises special exhibitions of Indian books and conducts market studies.

During 1980-81, India participated in the Festival of Books and Book Fair held in Singapore, the International Book Exhibition of Islam and Muslim World held in London and the International Book Fairs held at Sofia, Frankfurt and Belgrade. With the help of Indian Missions, special exhibitions of Indian books were organised at Dacca, Chittagong, Jakarta, Yogyakarta, Bangkok, Colombo, Kandy, Cairo, Addis Ababa, Bochum (FRG) and Penang.

Import of Books	No import licence is required for import of educational, scientific and technical books. During 1978-79, books and publications, including periodicals and journals, worth about Rs 18.66 crores were imported.
Publications Division	The Publications Division of the Ministry of Information and Broadcasting produces books, pamphlets, albums and journals to provide the lay reader with information regarding the diverse aspects of national life and culture and the teachings of national leaders. A major project of the Division is the publication of the <i>Collected Works of Mahatma Gandhi</i>. So far 83 volumes in English and 73 volumes in Hindi have been published. In all 90 volumes are planned to be brought out.
Books for Children	Books for children are brought out, among others, by the Children's Book Trust, the National Book Trust, the Publications Division and the National Council of Educational Research and Training.
Raja Rammohun Roy National Educational Resources Centre	The Raja Rammohun Roy National Educational Resources Centre was set up in New Delhi in 1972 to serve as an information centre to promote Indian authorship and indigenous book production at university level and for the documentation and statistical analysis of the printed materials imported from abroad with a view to formulating a meaningful import policy for books. It has a large reference collection of university level books produced indigenously as well as the subsidised editions of foreign text-books brought out under the Union Education Ministry's collaboration programmes with the Governments of UK, USA and the Soviet Union. This collection facilitates authors, publishers and others interested in the field to identify the subject fields and levels where books need to be produced indigenously. In order to publicise the availability of Indian books, the Centre has also been organising exhibitions of books at various university centres. The Centre also arranges evaluation by subject specialists, of selected books and circularises particulars of the books found suitable for use by various universities, etc., so that they could be increasingly used. It conducts sample surveys on various aspects of the production and use of university level books. The Centre has recently been designated as the national agency for introducing the International Standard Book Numbering System in India. Besides, it brings out bibliographies, newsletters, etc., on various topics of interest to meet the demands of authors and research scholars.
Copyright	The Copyright Act, 1957, which amended and consolidated all previous laws on the subject, came into force on 21 January 1958. A Copyright Board with powers of adjudication and a Copyright Office have been set up under this Act. Since its inception and up to 31 December 1980 the Copyright Office had registered 40,297 works. Out of these 30,851 are artistic works, 9,435 literary works and 11 cinematograph films. Protection under the Act has also been extended to the works originating from foreign countries through the International Copyright Order. India is a member of the Universal Copyright Convention; the Berne Convention for the protection of literary and artistic works; the Geneva convention for the protection of producers of phonograms against unauthorised duplication of their phonograms and the convention establishing the World Intellectual Property Organisation.

Under the annual copyright training programme 1980 of the World Intellectual Property Organisation (WIPO), which is a UN specialised agency, India received two trainees, from Thailand.

LIBRARIES

There are more than 60,000 libraries of all descriptions in the country, including ten libraries attached to institutions declared by Parliament as of national importance and over 5,000 specialised libraries attached to the various departments of the central and state governments.

Though the work relating to libraries is a state subject, the central Department of Culture, administers a few central libraries and gives financial assistance to voluntary organisations running public libraries. To ensure regulated development of public libraries, legislation has been enacted by the governments of Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu and West Bengal.

Copyright Libraries

Under the Delivery of Books and Newspapers (Public Libraries) Act, 1954, four libraries are entitled to receive a copy of every new book and magazine published in the country. At present, there are three such libraries, namely, National Library, Calcutta, Central Library, Bombay and Connemara Public Library, Madras.

Manuscript Libraries

The manuscript libraries and the libraries of oriental learning which are largely financed by the central government are spread all over the country. In addition, there are over 500 other collections belonging to state governments and private agencies which have hundreds of thousands of manuscripts.

Some of the important manuscript libraries are : Saraswati Mahal Library, Thanjavur, Tamil Nadu; Government Oriental Manuscript Library, Madras; Khuda Baksh Oriental Public Library, Patna; Raza Library, Rampur, Uttar Pradesh; Oriental Research Libraries at Pune, Maharashtra and Vadodara, Gujarat; Sanskrit University Library, Varanasi and Visheshwaranand Vedic Research Institute Library, Hoshiarpur and Maulana Azad Aligarh Muslim University Library, Aligarh.

Other Libraries

There are also specialised libraries providing facilities to researchers. Prominent among them are at the Indian Council of World Affairs, New Delhi; Indian Statistical Institute, Calcutta; Gokhale Institute, Pune; Theosophical Society, Madras; National Council of Applied Economic Research, Delhi and the Indian Institute of Public Administration, New Delhi.

Same other leading libraries are the Delhi Public Library (6.8 lakh volumes) and the Central Secretariat Library, New Delhi (4 lakh volumes). Apart from these, some of the bigger universities also have sizable collections.

Gazetteers

A Central Gazetteers Unit in the Union Ministry of Education, and Culture, edits the central gazetteers and plans and coordinates the work of the state and district gazetteers. So far, four volumes of the Gazetteer of India, namely, 'Country and People', 'History and Culture' and 'Economic Structure and Activities' and 'Administration and Public Welfare' have been released. More than 300 of the 337 district gazetteers have been revised. Also, 'Who's Who of Indian Martyrs' has been published in three volumes. The first volume includes patriots

who were hanged or killed in the Indian freedom struggle after 1857 till 1947 and the second contains the life sketches of those patriots who sacrificed their lives outside the territory of British India, those who lost their lives in the movements for the establishment of responsible governments in the former princely states and martyrs of the liberation movements in the former Portuguese and French possessions in India. The third volume deals with the 1857 martyrs. A monograph on the penal settlement in the Andamans has also been brought out by the Unit.

FESTIVALS

Indian festivals are as varied in origin as they are large in number. Some of them celebrate the birthdays of national heroes and some other mark the change of seasons or of ripening of harvests. Yet others have their origin in religion and in myths and legends. The main festivals of all the important communities in the country are also observed as public holidays. Some of the main festivals common to all India are : *Diwali*, *Dussehra*, *Holi*, *Shivaratri*, *Janmashtami*, *Ram Navami*, *Muharram*¹, *Id-ul-Zuha*, *Id-ul-Fitr*, *Id-i-Milad*, *Christmas*, *Good Friday*, *Vaisakhi*, *Guruparbs*, *Buddha Jayanti*, *Mahavir Jayanti* and *Jamshed Navaroz*. The Republic Day on 26 January, the Independence Day on 15 August and the birthday of Mahatma Gandhi on 2 October are observed as national holidays.

ARCHAEOLOGY

All ancient and historical monuments of national importance are the responsibility of the central government, while other ancient and historical monuments are maintained by state governments.

The Archaeological Survey of India (ASI), New Delhi, which was founded in 1861, is concerned with the exploration and excavation of ancient sites, the preservation of centrally protected monuments and sites, architectural surveys, maintenance of gardens around monuments, chemical preservation of sculptures, monuments and other works of art, epigraphical research, maintenance of archaeological museums, publication of multi-form records and review and implementation of Ancient Monuments, Archaeological Sites and Remains' Act 1958 and the Antiquities and Art Treasures Act, 1972.

Under the Antiquities and Art Treasures Act 1972, no object which is not less than one hundred years old (75 years in case of manuscripts, documents and the like) can be exported without a valid permit issued by the Director General, ASI. A permit is also required for the export of works of arts of some of the renowned artists which have been declared as art treasures under this Act. At all international exit points, an experts committee functions to issue non-antiquity certificates. Permission or licence is required for filming and photographing with stands, at centrally-protected monuments and museums. It also conducts a post-graduate diploma course in archaeology.

The ASI has a library which is one of the oldest in the country. It contains rare material not only on India but also on south-east Asia

¹ Muharram, though not a festival, is included among festivals of India because of its observance with piety and pageantry by a large number of people all over India.

and west Asia. There is a separate library of photographs.

Besides ASI, almost all the state governments have their own archaeological departments. University departments working in the field of archaeology carry out their research either independently or in co-operation with the states and ASI. A Central Advisory Board of Archaeology co-ordinates the activities of the central and state governments and the university research programmes in archaeology.

The ASI has also participated in the conservation and excavation programmes in Nepal, Afghanistan and Egypt.

Museums

The first museum in the country was set up at Calcutta in 1814. At present, there are over 360 museums in India.

The central government finances and administers a few central museums of art, archaeology, natural history, geology and commemorative and crafts museums, science technology and industry and rail transport.

Some of the important museums are : Indian Museum, Victoria Memorial Hall, Asutosh Museum, Calcutta; National Museum, National Gallery of Modern Art, National Museum of Natural History, Transport Museum, Nehru Memorial Museum and Library, New Delhi; Salar Jung Museum, Hyderabad; Prince of Wales Museum, Bombay; Government Museum, Madras, and the University Museum, Varanasi. There are several archaeological museums at ancient sites like Konarak, Nagarjunakonda, Nalanda, Sanchi and Sarnath and museum of handicrafts and textile designs and children's museums. A few scientific and technological museums have also been established.

Training facilities for museum personnel at the diploma level are at present provided by the Universities of Aligarh, Vadodara, Calcutta, Bhopal, and Varanasi and the Birla Institute of Technology, Pilani. In addition, the central government organises museum camps for in-service training and awards fellowships for training in India and abroad.

Archives

The National Archives of India, New Delhi, is the largest and perhaps the best organised record repository of non-current records in the whole of Asia. It is a clearing house for the scientific development or archives in the country. It caters to a large number of research scholars both Indian and foreign. The National Archives is carrying out a nation-wide programme for the survey and listing of private records and the publication of the National Register of Private Records. The organisation is also acting as the secretariat of the Indian Historical Records Commission. The National Archives has three record centres at Bhopal, Jaipur and Pondicherry.

INTERNATIONAL CULTURAL RELATIONS

Cultural Agreements

India has cultural agreements with 58 countries. They are : Afghanistan, Arab Republic of Egypt, Argentina, Australia, Algeria, Baharain, Bangladesh, Belgium, Brazil, Bulgaria, Cuba, Colombia, Cyprus, Czechoslovakia, Democratic People's Republic of Korea, Federal Republic of Germany, France, German Democratic Republic, Greece, Guyana, Hungary, Indonesia, Iran, Iraq, Italy, Japan, Jordan, Kuwait, Losotho, Mauritius, Mongolia, Mexico, Malaysia, Morocco, Norway, People's Democratic Republic of Yemen, Philippines, Poland, Portugal,

Qatar, Rumania, Republic of Korea, Rwanda, Sri Lanka, Senegal, Sudan, Syria, Somalia, Tunisia Thailand, Turkey, Tanzania, United Arab Emirates, USSR, Vietnam, Yugoslavia, Zambia and Zaire. Closer cultural relations with some of these countries have found a practical shape in the form of cultural exchange programmes with 32 countries.

Auroville

While the cultural co-operation activities rest mainly with the Department of Culture, union Ministry of Education and Culture, international cultural co-operation programmes are also executed through the Indian National Commission for Co-operation with UNESCO. A programme now under way with assistance from the commission is the 'Auroville' project of Sri Aurobindo Society, Pondicherry, which aims at bringing together the values and ideals of different cultures. Recently the central government has taken over the management temporarily.

Indian Council for Cultural Relations

The Indian Council for Cultural Relations, New Delhi, established in 1950, as a corporate body under the Ministry of External Affairs, strives to promote and strengthen cultural relations and mutual understanding between India and other countries. The Council has regional offices at Bangalore, Bombay, Calcutta, Chandigarh, Madras and Varanasi and cultural centres in Suva (Fiji), Georgetown (Guyana) and Paramaribo (Surinam).

The main functions of the Council are reciprocal development of studies in Indian and foreign universities, publications in English and foreign languages on different aspects of Indian culture, exchange of cultural delegations, scholars and artistes and organisation of lectures, seminars and conferences. Establishment of Chairs and Centres of Indian Studies abroad; looking after the welfare of foreign students in India and publication of periodicals in English, Arabic, Spanish, French and Hindi.

The Council administers the Jawaharlal Nehru Award for the Promotion of Peace and International Understanding, instituted by the union government in 1964. Recipients of the Award so far are : U. Thant, Dr. Martin Luther King, Khan Abdul Ghaffar Khan, Yehudi Menuhin, Mother Teresa, Dr. Kenneth D. Kaunda, Josip Broz Tito, Andre Malraux, Julius Nyerere, Raul Prebisch, Jonas Salk, Giuseppe Tucci, Tulsi Meherji Shrestha, Nichidatsu Fuji, Nelson Mandela and Baroness Barbara ward-Jackson.

Scientific research in India is carried out under the auspices of the central government, the state governments and various private organisations, including industry.

There are about 150 research laboratories within the purview of major scientific departments carrying out research in different areas. Under the central government, there are a large number of scientific institutions under various ministries, *e.g.*, railways, tele-communications, etc., to carry out research programmes of practical relevance to the areas of responsibility of these ministries. The state governments supplement the efforts of the central government in those areas which are of prime importance to them, namely, agriculture, animal husbandry, etc. A major work in the field of science and technology is carried out in educational institutions that come under the central and state governments. These receive funds through the University Grants Commission which has set up a Science Research Council to promote research in universities. The educational institutions also receive support for research from various major scientific agencies.

Scientific research is also gaining momentum in many industrial establishments. Till December 1980, there were 629 industrial establishments, including those in the public sector, whose in-house research and development units were registered with the Department of Science and Technology. A number of incentives are being offered to them by the central government to encourage them to embark on research and development activities.

The expenditure on research and development and related scientific and technological activities has increased from Rs 4.7 crores in 1950-51 to approximately Rs 630 crores in 1979-80 and is expected to be of the order of Rs 726 crores in 1980-81. The total allocation in the Sixth Five Year Plan (1980-85) for S&T activities (both plan and non-plan) is Rs 3,367.19 crores. This, however, does not include amounts such as investments on research and development by private organisations, including industry.

SCIENCE POLICY

The Government of India's science policy is guided by a resolution adopted by Parliament as early as March 1958. One of the main objectives of this resolution is to secure for the people of the country the benefits from the acquisition of scientific knowledge and its application. The resolution also sets out some other aims like encouraging individual initiative for the acquisition and dissemination of knowledge as well as the discovery of new knowledge, fostering programmes to train scientific and technical personnel to fulfil the needs in the fields of science and education, agriculture, industry and defence and ensuring an adequate supply of scientists and recognising their work.

EXPENDITURE Table 7.1 and 7.2 give an idea of basic expenditure on scientific research and development, sector-wise and organisation-wise.

TABLE 7.1
Expenditure on
Scientific
Research and
Development

	(Rs crores)				
	1974-75	1976-77	1978-79	1979-80 (Budget estima- tes)	1980-81 (Estima- ted)
Central government . . .	258.92	310.49	432.70	497.60	572.23
State governments . . .	28.65	32.05	41.47	45.62	50.17
Private sector . . .	36.46	48.42	72.04	86.45	103.74
TOTAL	324.03	390.96	546.21	629.67	726.14

Note : Data for 1980-81 have been estimated by applying the following rates of growth : Central government—15 per cent; State governments—12 per cent; Private sector—20 per cent.

TABLE 7.2
S&T Budget
of Major
Organisations

(Rs crores)			
Name of the Agency	1978-79	1979-80 (R.E.)	1980-81 (B.E.)
Department of Atomic Energy . . .	65.34	70.06	80.54
Department of Space	45.80	48.49	56.93
Department of Science & Technology . .	43.89	48.22	63.41
Council of Scientific and Industrial Re- search	50.03	54.28	60.45
Defence Research and Development Organisation	67.41	98.46 ¹	74.00
Indian Council of Medical Research . .	5.30	6.15	9.19
Indian Council of Agricultural Research .	67.91	85.92	96.36
Department of Electronics	6.11	8.96	6.30
TOTAL	351.79	420.54	447.18

R.E.—Revised estimates ; B.E.—Budget estimates;
¹Actual

APEX
ADVISORY
BODY ON
S&T

The term of the National Committee on Science and Technology (NCST) expired in July 1980. Government has since constituted a Cabinet Committee on Science and Technology headed by the Prime Minister. This Committee will review the progress of the overall science and technology programmes and will take decisions on high-level policy matters, corrective measures, major investments, etc. Government has also appointed a Science Advisory Committee to the Cabinet (SACC) as an Apex Advisory Body on S&T. SACC is headed by a Member (Science) in the Planning Commission and comprises a wide spectrum of scientists and technologists representing different areas of scientific endeavour. It will assess S&T programmes in relation to the approved objectives of the national socio-economic plans and make appropriate recommendations to the government. It will take note of the advances made in the field of science in the world. It will also explore the possibilities of international cooperation, particularly with other developing countries.

The Department of Science and Technology has the overall responsibility for the implementation of S&T policy, and for providing secretariat support to the Science Advisory Committee to the Cabinet.

DST

The Department of Science and Technology was set up in 1971. Since then it has been entrusted with the promotion of science and technology in new, frontier and emerging areas, and is co-ordinating various S&T activities. The primary efforts have been to implement

multi-institutional programmes to make maximum use of the existing infrastructure in the country, to consolidate the national S&T efforts and to focus attention on intensification of research in high priority and new areas of national relevance.

Some of the important activities of the Department are in the following areas : science and technology planning and co-ordination; new energy sources; science and technology promotion; technology utilisation and transfer; special programmes such as oceanographic research, fibre technology, setting up of testing facilities, instruments development, etc.

The Department was involved in a major way in the preparation of the chapter on the S&T component of the Sixth Five Year Plan (1980-85).

The Department of Science and Technology has constituted a Science and Technology Promotion Division to coordinate various activities of the Department in the area of promotion of science and technology. With a view to generating a strong viable national base for research in newly emerging areas of scientific importance and national relevance in the biological, physical, chemical and engineering sciences, the Science and Engineering Research Council has arranged for the preparation of state-of-art reports and conducted seminars to identify the thrust areas.

NEW ENERGY SOURCES

The Department of Science and Technology has accorded highest priority to the implementation of research and development programmes, demonstration projects and setting up of proto-type fabrication facilities in the area of new and renewable sources of energy (solar thermal, solar photovoltaic, wind, biogas, biomass production and conversion, etc.). Realising the importance of this area, a Commission on Additional Sources of Energy has been set up by government in the Department, which would ensure speedy implementation of programmes relating to renewable energies as well as co-ordinate and formulate policies for future guidelines.

Twenty community type biogas plants are being installed in different parts of the country on which techno-economic and socio-administrative data would be collected. Two biomass research centres, one at NBRI, Lucknow and other at Madurai Kāmaraj University, have also been created. Solar thermal devices (for water heating system, space heating, drying systems, air-conditioning and refrigeration) are being developed for demonstration purposes. Solar photovoltaic modules have been installed as demonstration systems in the lighthouse beacons at Dwarka port for pumping water in the solar distillation plant at Avania village in Gujarat, and for drinking water supply at Tijara village, Rajasthan. A widespread field demonstration programme for the utilisation of wind energy is under implementation. Greater emphasis is being given to the studies on the production, storage and utilisation of hydrogen energy.

OSTA

Acquisition of national oceanographic research facilities under the aegis of Ocean Science and Technology Agency (OSTA) for multi-disciplinary and inter-agency research is in progress. These specialised facilities would cater to the research and survey requirements of various research and user organisations.

The first national facility, namely, the oceanographic research vessel (ORV) for R&D on non-living resources is being acquired with assistance from the Federal Republic of Germany. Eight scien-

tists have been selected for training under this programme. Details relating to the design and procurement of a fishery and oceanographic research vessel (FORV) for R&D on living resources, a geo-technical ship for coxing and deep diving and research motor launches for research in coastal and inshore areas are currently being worked out. Expert Panels dealing with the seven national programmes identified by the OSTA standing committee, covering the broad spectrum of ocean science and technology, are determining the priorities for time-bound research projects to be closely linked with the operational programmes of the national oceanographic research facilities. A separate marine research and development fund has also been set up to support R&D in this area.

TECHNOLOGY UTILISATION & TRANSFER

In order to promote the development of indigenous technology and provide support for its utilisation, measures have been formulated for the registration of in-house R&D units within the industries, preferential treatment in licensing and delicensing for industries based upon indigenous R&D, liberal fiscal incentives for scientific research institutions, weighted tax reduction for sponsoring research and an investment allowance for the development of indigenous technologies. A new provision for weighted deduction of expenditure on approved programmes of in-house R&D units was introduced in the Finance Bill of 1980. By the end of 1980, 629 R&D units were recognised in both public and private sectors.

NRSA

The National Remote Sensing Agency (NRSA) carries out surveys of various natural resources using remote sensing techniques. Satellite imagery, multi-spectral scanner data from aerial flying and aerial photography are made use of for such surveys. The laboratory premises at NRSA are located at Hyderabad and the research flight facility with four aircraft (for high, medium and low altitude flying), fitted with various sensors, is located in Bangalore.

NRSA continued to execute resources survey programmes using the remote sensing technology based on aircraft as well as satellite imagery. Landsat and meteorological data were acquired, using the earth station commissioned near Hyderabad. They were processed and distributed to several users within and outside India. A data centre has been set up for storage, retrieval and distribution of satellite data. As part of the organisational restructuring of DST, NRSA has been now transferred to the Department of Space with effect from December 1980.

NISSAT

The DST set up a National Information System for Science and Technology (NISSAT) in 1977 with the main objective of interlinking and co-ordinating the various information sources, systems and services into an effective decentralised information network involving standardised and mutually competitive systems for collection, storage, processing and dissemination of information. The four subject/product/mission oriented sectoral information centres catering to the four different sectors of science and technology, viz., leather (CLRI, Madras), machine-tools (CMTI, Bangalore), food (CFTRI, Mysore), drugs and pharmaceuticals (CDRI, Lucknow) are already functioning on a regular basis. Various surveys, like in the sectors of chemicals, textiles, etc., have been carried out with a view to ascertaining the requirements of the potential users of information in the respective sectors.

To keep the scientists and technologists in the country informed of the state-of-the-art in the field of information science, a quarterly publication entitled "NISSAT Newsletter" is being brought out regularly.

CEL

The Central Electronics Limited (CEL) is a public sector enterprise set up for the manufacture of sophisticated ferrites, ceramics and other electronic components based fully on indigenous know-how. Its factory located at Sahidabad (U.P.) has started commercial production. The company has also undertaken a number of R and D projects based on indigenous know-how in the field of electronics, solar photo-voltaic cells and electronic instrumentation for possible commercial production. The approved outlay during the Fifth Plan was Rs 5.00 crores which is expected to go up to Rs 7.00 crores by 1984-85.

NATIONAL SURVEYS AND OTHER INSTITU- TIONS

The DST has administrative responsibility for the Survey of India, Dehra Dun; the National Atlas Thematic and Mapping Organisation, Calcutta and the National Museum for Natural History, New Delhi. The botanical and zoological surveys have now been transferred to the newly created Department of Environment.

The Survey of India undertook several field and topographic surveys for developmental projects connected with coal fields, irrigation, power, communications, flood control, forest surveys, etc. The R&D activities for photogrammetry and instrumentation also progressed satisfactorily. A revised and enlarged edition of "Glossary of Terms Used in Cartography" has been brought out. The National Atlas and Thematic Mapping Organisation published 2,000 copies of each of the 48 maps of the main English edition of the National Atlas of India.

There are several research institutions receiving financial assistance from DST. These are : Indian Association for the Cultivation of Science, Calcutta; Bose Institute, Calcutta; Raman Research Institute, Bangalore; Birbal Sahni Institute for Palaeobotany, Lucknow; Wadia Institute of Himalayan Geology, Dehra Dun; Maharashtra Association for the Cultivation of Science, Pune; Padmaja Naidu Himalayan Zoological Park, Darjeeling; Sree Chitra Tirunal Medical Centre, Trivandrum; Indian National Science Academy, New Delhi; and Indian Science Congress Association, Calcutta.

NCEPC

The National Committee on Environmental Planning and Co-ordination (NCEPC) was constituted by the Government of India in 1972 to identify, investigate and propose solutions for the problems of improving the human environment in the context of growth and distribution of population and economic development. For accomplishing these goals, the NCEPC was to review, formulate and promote policies and programmes covering development, physical planning, legislation, administrative procedures, education and public information and research. Under the terms of reference assigned to the NCEPC, the major functions include promotion of environmental ecological research, appraisal of development projects from environmental impact considerations, preparing guidelines for incorporating environmental safeguards in developments planning, recommending policy for environmental management and coordinating activities in the field of environmental planning, legislation, research and training with international agencies. The NCEPC also takes initiative for the promotion of environmental awareness at all levels of society and is a focal point for exchange of

expertise and information in the fields related to human environment.

The NCEPC has constituted sub-committees for dealing with the special problems relating to natural resources management, industry and environment, environment education, human settlements and rural environment. Project proposals for research and development as well as action programmes for demonstrating environmental management measures are considered by the funding bodies, namely, the Environmental Research Committee (ERC) and the Indian National Man and Biosphere Research Committee (MAB) constituted by the Department of Science and Technology. The NCEPC reviews the activities of state environmental committees constituted in most of the states and union territories at the behest of the NCEPC. The NCEPC has also taken a lead for identifying biosphere reserves in the country.

NRDC

The National Research Development Corporation of India (NRDC), New Delhi, a public sector undertaking of the central government set up in 1953, acts as a link between research and industry. It is also entrusted with the task of promoting inventive talents in the country. In 1978-79, it signed 101 licensing agreements for releasing various processes to industry. Over 2,000 licensing agreements have so far been signed. The value of goods produced from processes licensed by NRDC is estimated to be over Rs 40.00 crores. The activities in the application of indigenous know-how in collaboration with industry have been intensified during recent years.

The NRDC is implementing 15 pilot projects in the Socialist Republic of Burma, costing approximately Rs 2.5 crores. Efforts are being made for the horizontal transfer of technology. It has also succeeded in contracting for export of technology from India.

The Corporation continued its activities in promoting new inventions, and giving awards to inventors. A publication in two volumes "Appropriate Technologies" has been brought out, containing 107 technologies in chemical and allied industries and 73 technologies in engineering industry.

DEPARTMENT OF ENVIRONMENT

The Government of India constituted a new Department of Environment (DoEnv) on 1 November 1980 under the charge of the Prime Minister to make an in-depth review of the administrative machinery and legislative measures for environmental protection. A high-level committee headed by the Deputy Chairman of the Planning Commission, which was constituted on 1 February 1980, had recommended the setting up of this Department.

The Department of Environment would serve as the co-ordinating agency for activities related to environmental protection and management. It would have the support of a number of existing and proposed institutions/research bodies. The Botanical Survey of India and Zoological Survey of India have been placed under the administrative control of the new Department.

A National Committee on Environmental Planning (NCEP) has also been constituted recently.

ATOMIC ENERGY

The Atomic Energy Commission, set up in August 1948, is responsible for all atomic energy activities in the country. The executive agency for implementing the atomic energy programme is the Department of Atomic Energy which was set up in August 1954.

Research and development work on the application of atomic energy is done at the Bhabha Atomic Research Centre (BARC) at Trombay, near Bombay. The Centre is the largest single scientific establishment in the country. At present, it houses four research reactors : APSARA, a one-megawatt swimming pool type reactor; CIRUS, a 40 mw reactor; ZERLINA, a zero energy experimental reactor; and PURNIMA, a zero energy fast reactor, and some of the most advanced laboratories and workshops in the world. R-5, a 100 mw thermal research reactor, is under construction at Trombay.

Over 350 radioactive products and labelled compounds are produced at BARC and are supplied to some 500 institutions in India and abroad. Radio-isotopes are finding use within the country in varied applications ranging from industrial radiography to the diagnosis and treatment of diseases. Important applications of radiations are being tried out in disinfesting foodgrains, developing high-yielding, disease-resistant mutants of, among others, rice, wheat, groundnut, jute, sugarcane and mustard; preserving perishable foodstuffs and sterilising medical products. Some of the radioactive products and associated equipment produced at the BARC are also being exported. A commercial radiation sterilisation plant at Trombay, called ISOMED, provides sterilisation service to the medical products industry in the country. The Radiation Medicine Centre at Bombay handles diagnostic and therapeutic applications of radio-isotopes.

The Variable Energy Cyclotron, built at Calcutta by BARC, is a national facility for advanced work in nuclear physics, and for controlled direct irradiation of biological and agricultural products.

The Gauridibanur Seismic Station of BARC, near Bangalore, helps in the detection and identification of underground nuclear explosions and also facilitates seismic research.

A High Altitude Research Laboratory of BARC at Gulmarg provides facilities for high altitude research to all scientific institutions and universities in the country. There is also a Nuclear Research Centre at Srinagar.

Besides the nuclear sciences, BARC undertakes research and development work in a wide range of other fields including metallurgy vacuum technology, laser, plasma physics, electronics, agriculture, biology and medicine. It has developed a number of products and processes during the last 30 years and passed on the technical know-how relating to them to the industry. The BARC also conducts a country-wide personnel monitoring service for evaluating radiation exposure of workers in institutions using radiation sources, besides carrying out radiological protection surveys.

In addition to R and D, the Atomic Energy Programme covers a wide range of independent activities undertaken by units under the Department of Atomic Energy situated in different parts of the country. Survey, prospecting and developing work relating to uranium, thorium, beryllium and columbium-tantalum is carried out by the Atomic Minerals Division, with its headquarters at Hyderabad. The Indian Rare Earths Ltd. extracts rare earth, minerals and thorium from the beach sands of South India as also in Orissa. The Uranium Corporation of India Ltd. mines and concentrates uranium at Jaduguda in Bihar. A Nuclear Fuel Complex at Hyderabad fabricates fuel ele-

ments for nuclear power reactors. The Complex also prepares special materials needed by the electronics industry. Manufacture of electronic instruments and equipment for nuclear as well as non-nuclear uses, including commercial TV sets and computers is undertaken at the Electronics Corporation of India Ltd., Hyderabad.

NUCLEAR POWER

The most important peaceful application of atomic energy is generation of power. Nuclear power made its debut in the country with the commissioning of the 420 mw Tarapur Atomic Power Station in Maharashtra in 1969.

The Power Project Engineering Division of the Department undertakes the construction and operation of nuclear power stations. Presently, it is constructing the 470 MWe Madras Atomic Power Station at Kalpakkam in Tamil Nadu, and the 470 MWe Narora Atomic Power Station at Narora in Uttar Pradesh. It is already operating two stations—the 420 MWe Tarapur Atomic Power Station at Tarapur near Bombay and the 440 MWe Rajasthan Atomic Power Station at Rana Pratap Sagar near Kota.

The power reactors being constructed at present use heavy water as moderator. Besides a small heavy water plant functioning at Nangal in Punjab, there are four heavy water plants at Vadodara, Kota, Talcher and Tuticorin.

Work on advanced reactor concepts, such as the Fast Breeder Reactor, is being done at the Reactor Research Centre, Kalpakkam, where a Fast Breeder Test Reactor is under construction.

Another area in which India has advanced is the technology of underground nuclear explosions. On 18 May 1974, India successfully conducted its first underground nuclear experiment at Pokhran in Rajasthan.

There is an advanced training programme at the Bhabha Atomic Research Centre where annually around 150 graduate engineers and scientists are given special training in nuclear science and technology to prepare them for positions in the various atomic energy establishments in the country. India's nuclear facilities have been made available for training and research work to scientists from a number of developing countries.

SPACE RESEARCH

The Indian space programme began in the year 1962 when the Indian National Committee for Space Research (INCOSPAR) was formed in the Department of Atomic Energy of the Government of India. In 1969, the Indian Space Research Organisation (ISRO) was created to plan, manage and execute the nation's growing activities in space science, space technology and space applications.

The Government of India established the Space Commission in June 1972, backed by the Department of Space (DOS) and entrusted DOS with the responsibility for conducting India's space programme. ISRO functions under DOS as its research and development organisation.

The Space Commission, the Department of Space and the Indian Space Research Organisation have their headquarters in Bangalore.

The primary aims of the Indian space programme are the applications of space science and technology to further national developmental objectives in mass communication and education *via* satellites; the survey and management of natural resources through remote sensing

technology from space platforms and the development of space technology with the maximum degree of self-reliance.

ISRO

The Indian Space Research Organisation (ISRO) is responsible for the planning, execution and management of space research activities and space applications programmes of the Department of Space.

The activities of ISRO are carried out at its four space centres, namely, Vikram Sarabhai Space Centre (VSSC), Trivandrum, Kerala; ISRO Satellite Centre (ISAC), Bangalore, Karnataka; SHAR Centre, Sriharikota, Andhra Pradesh; and Space Applications Centre (SAC), Ahmedabad, Gujarat.

In addition, DOS provides major support to the Physical Research Laboratory (PRL) at Ahmedabad which is India's prime centre for research in space sciences.

MAJOR
ESTABLISH-
MENTS

The activities of major establishments of ISRO are described below :

VSSC

Vikram Sarabhai Space Centre (VSSC), named after the late Prof. Vikram A. Sarabhai, the founder of the Indian space programme, encompasses all aspects of work related to the development of sounding rockets and satellite launch vehicles, scientific and technological payloads, ground-based and vehicle-borne instrumentation and production facilities for propellants and rocket hardware. VSSC is also responsible for building and launching the Menaka and Rohini (including Centaure) series of sounding rockets for meteorological and scientific investigations of the upper atmosphere. India's first satellite launch vehicle, SLV-3, successfully launched on 18 July 1980 from ISRO's SHAR Centre at Sriharikota, was developed at this Centre. This four-stage solid propellant rocket placed a 35-kg indigenous Rohini Satellite (RS-1) into a near-earth orbit. The data sent down by RS-1 indicated that all the systems of SLV-3 worked satisfactorily. The 22.7-metre-long SLV-3 is being augmented with strap-ons to achieve a vehicle (ASLV) capable of putting 150 kg satellites into a low earth orbit. A Polar Satellite Launch Vehicle (PSLV) for putting 600 kg class satellites into a sun-synchronous orbit is another programme on the anvil.

The Space Science and Technology Centre (SSTC) of VSSC is the main research and development laboratory. Solid propellant for the rockets is produced at the Rocket Propellant Plant while the rockets and other hardware are made at the Rocket Fabrication Facility (RFF). The Propellant Fuel Complex (PFC) produces special materials required for the processing of propellants. Liquid propellants for rockets have also been developed on a laboratory scale. An experimental plant for the production of ammonium perchlorate, used as oxidiser in solid propellants, has been set up at Alwaye, Kerala.

VSSC operates and maintains the Thumba Equatorial Rocket Launching Station (TERLS) which has been recognised by the United Nations Organisation (UNO) as an international facility for sounding rocket experiments to investigate problems of meteorology and ionosphere over the geomagnetic equator running close to Thumba and for other experiments. Since November 1963, when the range became operational, more than 1,300 sounding rockets of different makes have been launched for meteorological, ionospheric, aeronomic and astronomical studies. Scientists from Bulgaria, France, Federal Republic of Germany, Japan, UK, USA and USSR have participated, in co-

operation with their Indian counter-parts, in many of these experiments.

ISAC

ISRO Satellite Centre (ISAC) is responsible for the design, fabrication and integration of spacecraft and the development of satellite technology. The first Indian satellite, *Aryabhata*, named after the famous ancient Indian astronomer and mathematician, was designed and fabricated at this Centre. This 360-kg satellite was launched on 19 April 1975 into a near-circular orbit of 600 km at an inclination of 51° to the equator from a Soviet cosmodrome using a Soviet intercosmos rocket. The spin-stabilised satellite survived in orbit well beyond the design life-time of six months. All the technological systems on-board the satellite have been functioning well.

With the launching of *Aryabhata*, India has acquired indigenous capability in satellite technology, namely, to design and fabricate a space-worthy system and evaluate its performance in orbit, evolve the methodology of conducting a series of complex operations on the satellite and set up the necessary receiving, transmitting and tracking systems, besides the establishment of the infrastructure for fabrication of satellite systems.

The second Indian satellite, *Bhaskara*, was launched on 7 June 1979 from a Soviet cosmodrome for earth observations. The 44-kg experimental satellite, named after two ancient Indian astronomers, was designed and built by ISRO. It contains sophisticated instruments for carrying out remote sensing experiments over India, using TV cameras and microwave radiometers. *Bhaskara* experiments are useful in the fields of forestry, hydrology snow-cover and snow-melt, geology, soils, land use and ocean surface studies.

An improved version of *Bhaskara* with a wider scanning range is getting ready at the Centre to be launched from Soviet Union.

Rohini Satellite (RS-1), developed at ISAC, was the first Indian satellite to be launched from India using the indigenous SLV-3 vehicle. A series of Rohini satellites covering selected scientific and application payloads for launch by future SLV vehicles are under development at the centre.

India's first three-axis body stabilised geostationary experimental satellite, APPLE, is expected to be launched in June 1981 using the Ariane launch vehicle of the European Space Agency (ESA). The spacecraft weighing about 660 kg would provide India expertise in the technology necessary for the building and operation of geosynchronous satellites. While the communication payloads of the satellite were built at SAC (Space Applications Centre), important subsystems like ABM (Apogee Boost Motor) and secondary propulsion systems were built at VSSC.

Space-based remote sensing of natural resources being one of the major goals of ISRO, efforts are underway to develop an operational Indian Remote Sensing Satellite (IRS) by mid-eighties.

SHAR
CENTRE

The SHAR Centre at Sriharikota island, in Andhra Pradesh, is being developed as a range for launching bigger satellite launch vehicles, like ASLV and PSLV. India's first satellite launch vehicle SLV-3 was launched from here.

A comprehensive test facility for conducting various ground tests of

rocket motors and subsystems has been set up at Sriharikota. This test facility is being augmented for PSLV programme.

The ISRO Telemetry, Tracking and Command Network (ISTRAC), which has been set up to manage the telemetry and telecommand network of ISRO, has supported all ISRO missions such as *Aryabhata*, *Bhaskara* and RS-1 with its network stations at SHAR Centre, Ahmedabad, Car Nicobar and Trivandrum.

SAC

Space Applications Centre (SAC) is engaged in the planning and execution of the space application projects of ISRO. Its objective is to apply space science and technology to practical uses. To achieve this goal, SAC has taken up work in telecommunications and television broadcasting and reception *via* satellites; use of remote sensing techniques to survey natural and renewable earth resources; studies in space meteorology and satellite geodesy.

The Centre conducted the Satellite Instructional Television Experiment (SITE), the year-long (August 1975 to July 1976) experiment in direct broadcast of television programmes *via* the NASA satellite, ATS-6. During the experiment, community TV sets were installed in 2,400 villages in Rajasthan, Bihar, Orissa, Madhya Pradesh, Karnataka and Andhra Pradesh and instructional programmes were beamed directly *via* the satellite.

Under an agreement between ISRO and the Symphonie organisation, one of the two transponders aboard the Franco-West German Symphonic satellite was made available for Indian experiments in satellite telecommunications for two years, beginning from June 1977. Known as the Satellite Telecommunications Experiments Project (STEP), this two-year project was taken up by ISRO in collaboration with the Posts and Telegraphs Department. Under STEP, experiments in remote area communications using transportable terminals, radio-networking, emergency communications, digital communications, multiple access, integration of satellite circuits into terrestrial network and multiple audio-video transmission were conducted. The project was mainly aimed at providing a system test of geo-synchronous communication satellite and to sharpen India's expertise in the design, development, fabrication and operation of communication systems involving geo-stationary satellite.

The ground network for STEP consisted of the earth stations at Ahmedabad, Delhi and Madras, Transportable Remote Area Communication Terminal (TRACT) and the Emergency Communication Terminal (ECT).

One important area of SAC activity is the remote sensing of natural and renewable resources. ISRO and the Indian Council of Agricultural Research (ICAR) conducted, during 1974-75, a joint experiment called the Agricultural Resources Inventory and Survey Experiment (ARISE), employing remote sensing techniques to assess crops and land-use pattern in Anantapur district of Andhra Pradesh and Patiala district of Punjab.

The remote sensing techniques are being applied for a wide range of purposes, such as collection of data relating to agriculture, detection of minerals, management of water resources, forest inventories and meteorological studies. SAC is developing sensors for use from balloons, aircraft and spacecraft to collect data for these applications. Some of these sensors are : intra-red scanner, multispectral scanner, microwave radiometer and the vidicon TV camera.

About ten remote sensing experiments have so far been conducted to study aspects of agriculture and landscape features over sites in Pune, Bombay, Sriharikota island, Jaipur, Bangalore and the districts of Anantapur, Patiala and Panchmahals (Gujarat).

SPONSORED RESEARCH

Various universities and academic institutions in the country are identified and encouraged by ISRO to undertake research and development studies in Space Science, Space Technology and Space Applications relevant to the Indian Space Programme.

MONEX

The ISRO participated in the Monsoon Experiment (MONEX) conducted during 1979. A regional component of an international study called "Global Atmospheric Research Programme" (GARP), MONEX was conducted jointly by the World Meteorological Organisation (WMO) and the International Council of Scientific Unions (ICSU). The India Meteorological Department (IMD) was the main executing agency of this project in India. ISRO's contribution to the project comprised collection of data using rockets, air-borne thermal infra-red scanners and reception of data from satellites.

INSAT

The Department of Space, in close co-operation with the Ministries of Communications, Tourism and Civil Aviation and Information and Broadcasting, has taken up the establishment of the Indian National Satellite (INSAT) system. The INSAT system is a multi-purpose operational space system providing telecommunications, meteorology and television services from a common satellite in geostationary orbit. The proposed system envisages a very significant telecommunications component providing for long-distance telephony, communication with remote areas and islands and emergency communications. The meteorological capability includes 24-hour observation of weather system, data collection and relay from remote, unattended platforms and a disaster warning. Television capability relates both to direct TV broadcasting from satellite to community TV sets in rural areas and to radio networking.

The Government of India has approved the implementation of the INSAT-1 system which is expected to be operational in 1982. DOS has entered into a contract with the Ford Aerospace Communication Corporation (FACC) of USA for the supply of two INSAT-1 spacecraft along with certain satellite control equipment for the Master Control Facility (MCF) in India. The launch and associated services for INSAT-1 system are being obtained from United States National Aeronautics and Space Administration (NASA) on a cost reimbursible basis as per agreement concluded in November 1980.

STARS

The Satellite Tracking and Ranging Station (STARS) was inaugurated on 23 January 1977 at Kavalur in Tamil Nadu. It was started in collaboration with the USSR Academy of Sciences. In addition to the tracking cameras, there is also a ranging laser at the station. It is now possible to determine orbits of our own satellites accurately and the data collected is useful for geodetic purposes.

PRL

The Physical Research Laboratory at Ahmedabad conducts basic research in space sciences for understanding the structure and dynamics of the earth's upper atmosphere, the solar-terrestrial relationship, astrophysical problems, etc.

ELECTRONICS

The Electronics Commission is the nodal agency responsible for the healthy growth of the electronics industry in India. It is assisted by the Department of Electronics for executive duties. The responsibilities of the Electronics Commission/Department of Electronics are discharged through a number of activities like the information, planning and analysis, co-ordination through promotional and regulatory work, technology development and direct execution of programmes.

To build up a sound indigenous technology base, the Electronics Commission has set up Technology Development Council (TDC) and National Radar Council (NRC) for identifying, implementing and monitoring the technology development projects in various research institutes, public sector undertakings, universities and IITs. The activities of the NRC are in the field of radars, sonars and navigational aids. The TDC and NRC have already approved 190 and 33 projects respectively for financial support covering various sectors of electronics like materials, components, instruments, controls, computers, radars, etc. Out of these, about 60 projects have been completed and the technology developed has been or is being transferred to appropriate production agencies. The remaining projects are at various stages of completion. Most of the projects are in the high technology area and are mostly import-substitution activities. The Department of Electronics has undertaken development of a few computer based electronic systems for the Ministry of Defence.

The production of electronic equipment and components has grown very rapidly over the past few years. During 1979, the total electronics production was of the value of Rs 646.5 crores. The public sector units like Bharat Electronics Ltd., Indian Telephone Industries Ltd., Electronics Corporation of India Ltd., Instrumentation Ltd., Hindustan Teleprinters Ltd., Hindustan Aeronautics Ltd., Central Electronics Ltd., etc. manufacture a wide variety of products contributing for more than 40 per cent of the total electronics production. The export of electronic goods during 1979 was of the value of Rs 46.6 crores. The production base in the Santa Cruz Electronics Export Processing Zone (SEEPZ) (for 100 per cent export) has been further widened. The exports from the Zone have increased from Rs 5.6 crores in 1978 to Rs 10.0 crores in 1979.

During 1980, the Department of Electronics prepared and submitted to the Planning Commission its Sixth Five Year Plan (1980—85) in which emphasis has been laid on export promotion, import substitution, large volume production of components and manpower development.

The Department of Electronics has made substantial efforts for developing indigenous computer capability for hardware as well as software. The major producer of indigenous computers is Electronics Corporation of India Limited, Hyderabad, a public sector undertaking. It has already produced and installed 184 computer systems of various types, such as TDC-12, TDC-312, TDC-316 and Micro-78. A few units in the private sector have successfully developed and marketed dedicated microprocessor based systems for financial, inventory and other applications. Research work is also in progress for use of Indian languages in computers. To meet the computing needs of various regions, Department of Electronics has been establishing regional computer centres. The regional computer centre at Calcutta has already been in operation and is used by over 80 users. The regional

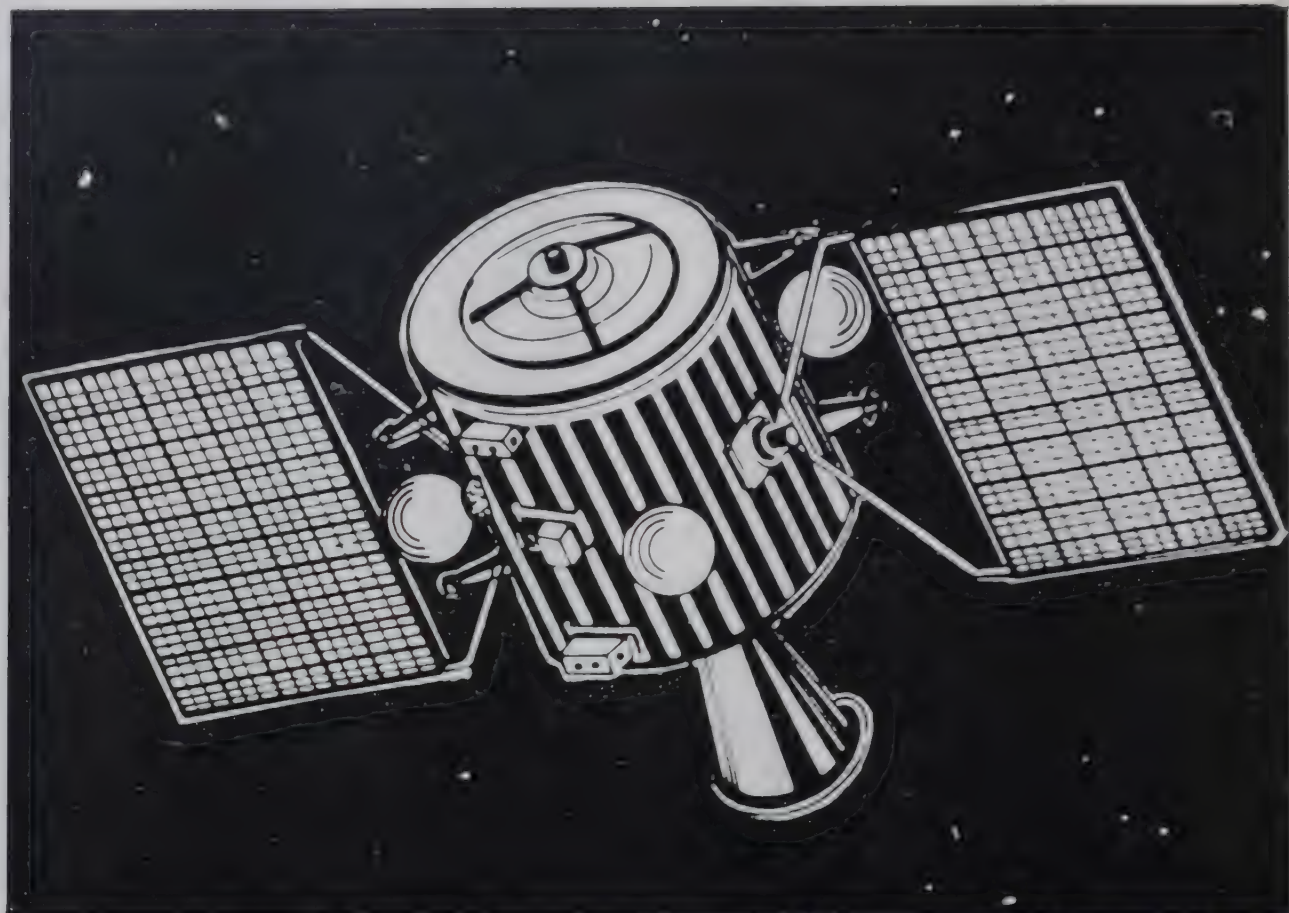
Nation on the March



Electrification of Indian Railways.



Earth station at Sikandrabad (Uttar Pradesh) with micro-wave link for satellite communication in remote areas.



An impression of APPLE in orbit.



A view of four blast furnaces of the Rourkela Steel Plant.



Systematic soil survey and farming yields better 'Jowar' crop.



Solar water heating system.

computer centre for the northern region has been set up at Chandigarh. Two other centres have been set up at Pune and Kanpur. The National Centre for Software Development and Computing Techniques, Bombay, has been making steady progress towards its objectives. The National Informatics Centre (NIC), set up to provide a computer network infrastructure for enabling the development of interactive computerised data bases for various ministries/departments and related organisations of the Government of India, has made considerable progress. It has already developed several information systems for various government ministries/departments, and installed 10 computer terminals through which they can directly have an access to the Maxi-computer Cyber 170/720 installed at NIC. To extend the computer application to more specialised areas and to maximally utilise the computer facilities, infrastructure and manpower already developed, the Department of Electronics has undertaken two projects on (i) computer aided design programme and (ii) computer aided management programme with UNDP assistance.

The Industrial Electronics Promotion Programme aiming at identifying the needs and promoting the use of control, instrumentation and industrial electronics in major industrial sectors has been progressing. The Special Microwave Products Unit has been developing and supplying several critical and high technology microwave devices and sub-systems for professional and strategic uses. The Beryllium Metal and Copper Beryllium Alloy Plant is being set up at BARC, Bombay.

The Department of Electronics has three public sector undertakings under its administrative control. The Electronics Trade and Technology Development Corporation (ETTDC), New Delhi, has been fostering the trade with foreign countries. It has enlarged its technology development activities regarding making Indian electronic products export-worthy and developing import substitutes. For building up exports, it has undertaken an export and production programme with financial assistance from Department of Electronics. It assists in technology transfer for the technology development projects of Department of Electronics. It is also rendering consultancy services in the field of electronics in India and abroad. The Computer Maintenance Corporation (CMC), Hyderabad, set up to develop an indigenous base for computer support services, has been providing maintenance service to computers card punching installations numbering more than 800 of various makes, such as IBM, Burroughs, Cii-HB, DEC, EMI, ICL, Inforex, Interdata and Robotron. The Semiconductor Complex is being established at SAS Nagar in Mohali (near Chandigarh). The complex will primarily manufacture large scale integrated circuits (LSI) products used in data systems like calculators and computers, instrumentation, telecommunications and consumer electronics.

In order to encourage the growth of the electronics industry uniformly throughout the country, Electronics Commission has been encouraging the setting up of functional electronics estates. Already a few states like Gujarat, Kerala, Uttar Pradesh, Punjab, West Bengal, Bihar, Karnataka, Haryana and Maharashtra have set up state-owned electronics development corporations for the manufacture of a wide variety of electronic items. The Electronics Commission/Department of Electronics has been providing financial and technical assistance for the setting up of electronics test and development centres in various states and union territories aimed at providing integrated standardiza-

tion, testing, reliability promotions, and offering continuing feedback for overall quality improvement in the country. So far, 18 such centres have been set up for providing these services to the small and medium scale units. The Department of Electronics has also planned four regional test laboratories out of which three laboratories are already functioning at Bombay, Delhi and Bangalore.

As the nodal agency of government in the field of electronics as a whole, the Department plays an important advisory, coordinating, integrating and promotional role through a number of direct and indirect means. The Electronics Commission has been setting up technical panels to assess the country's requirements of electronics products in the specific areas, and to draw up a work programme including technology development, creating of industrial capacity, manpower training, provision of special infrastructural facilities, etc., to support the production base. The Department of Electronics is actively involved in various satellite programmes of the Department of Space. It is represented on several high level boards/committees and technical groups constituted by the Ministry of Defence and its associated agencies for the implementation of specific programmes in the defence electronics. Technical studies are undertaken on a continuing basis in the Department to explore alternatives for meeting the defence requirements on the basis of maximum self-reliance.

CSIR

The Council of Scientific and Industrial Research (CSIR), constituted in 1942 by a resolution of the then Central Legislative Assembly, is an autonomous body registered under the Registration of Societies Act XXI of 1860. With its network of laboratories and research institutions, it is a major instrument of scientific and industrial research under State auspices and supports research in universities and other centres of learning.

The Council administers the "Scientists Pool", introduced in 1958, to provide temporary placements to well qualified Indian scientists, engineers and medical personnel returning from abroad, and later extended to highly qualified Indian scientists who had not been abroad. The CSIR also maintains a register of scientists and technical personnel in the country.

The Council has set up several polytechnology transfer centres in various states to extend technological assistance to industries, particularly in the medium and small scale sector.

The Council has a scheme to facilitate CSIR scientists, technologists and engineers to set up industries based on CSIR know-how. Eight industries based on CSIR technologies have been set up.

The areas of collaboration of CSIR with various ministries and departments have been increasing from year to year. A number of projects continued to be undertaken by the laboratories in collaboration with different ministries/departments of the government both at the centre and in the states. Design and consultancy capabilities in many specialised areas have been developed by the laboratories.

A number of collaborative programmes have been undertaken by the laboratories with various universities in specific areas. The setting up of national facilities by CSIR has added distinctively to the scientific and technological potential of the country as a whole.

The Council instituted an Award in 1957 in the memory of its first Director and architect, late Dr Shanti Swarup Bhatnagar. The award is made each year for outstanding contribution in science in-

cluding engineering and technology. Five or more prizes, each of value of Rs 20,000, are usually awarded annually in the following disciplines; Physical Sciences, Chemical Sciences, Biological Sciences, Medical Sciences and other Sciences.

The CSIR publishes a popular science monthly "Science Reporter".

Some basic data relating to CSIR (as on 1 April 1980) are as follows :

National laboratories/institutes-31; industrial research associations-2; extension centres/field stations-71; scientists-3,048; other scientific and technical staff-8,111; administrative staff-3,161; research committees-12; research schemes in progress-554; emeritus scientists-22; pool scientists-386; research fellowships-3,628.

National Laboratories

The CSIR laboratories and industrial research associations working under the auspices of CSIR are grouped into five distinct disciplines.

Physical and Earth Sciences

The national laboratories coming under the physical and earth sciences group are : the National Physical Laboratory, New Delhi (estd. 1950) which, in addition to functioning as a statutory agency for maintenance of national standards, has set up a national facility for hydrostatic extrusion and materials synthesis; the Central Electronics Engineering Research Institute, Pilani (estd. 1953; extension centres at Madras and New Delhi) which has developed 100 mw and 500 mw citizen band transreceivers and communication systems; the Central Scientific Instruments Organisation, Chandigarh (estd. 1959; service and maintenance centres at Bombay, Madras, Calcutta, Chandigarh, Cochin, Hyderabad, Jaipur, Lucknow, Madras and New Delhi) which has developed a non-fade ECG monitor based on electro-magnetic deflection CRT, an automatic blood cell counter and cardiograph; the National Geophysical Research Institute, Hyderabad (estd. 1961) which has successfully completed the deep seismic sounding profile along Kavali-Udipi cross-section with Soviet collaboration; and the National Institute of Oceanography, Panaji (estd. 1966; regional centres at Bombay, Cochin and Waltair) which is engaged in the studies of the seas around India with a view to making judicious use of their resources and has made a breakthrough in the survey of ocean-bed for minerals.

Chemical Sciences

The national laboratories under the chemical sciences group are : the National Chemical Laboratory, Pune (estd. 1950) which has developed technologies for commercial production of butenediol, dimethoate and ethion; the Central Electrochemical Research Institute, Karaikudi (estd. 1953; field stations at Madras and Mandapam) which has developed process know-how for sintered photo-conductive cadmium selenide cells, weston standard cell and aniline sulphate; the Central Salt and Marine Chemicals Research Institute, Bhavnagar (estd. 1954; field stations at Berhampore and Mandapam) which has developed reverse osmosis and electrodialysis plants for desalination of brackish waters; the Regional Research Laboratory, Hyderabad (taken over in 1956) which has developed the process know-how for commercial production of Monocrotophos, Dichlorodivinyi phosphate and quinolphos-pesticides the Regional Research Laboratory, Jorhat (estd. 1959; experimental farms at Imphal, Mokokchung and Shillong) which has developed the mini cement technology and technology for the production of an additive for beneficiation of iron-ore and know-how for processing of carbon black from high-volatile coals of Assam; the Indian Institute of

Petroleum, Dehradun (estd. 1959; field stations at Jawahar Nagar and New Delhi) which has evaluated crude oils from Bombay High region and from Assam (Geleki) and Iraq (Basrah) in order to provide basic data for processing these crudes in Indian refineries; the Central Fuel Research Institute, Dhanbad (estd. 1950) which carries out research and development on efficient utilisation of coal and physical and chemical surveys of Indian coals through its field stations at Bilaspur, Jammu, Jealgora, Jorhat, Nagpur, Nankan and Raniganj.

Biological Sciences

The national laboratories under the biological sciences group are : the Central Food Technological Research Institute, Mysore (estd. 1950; experimental stations at Bombay, Hyderabad, Lucknow, Ludhiana, Mangalore and Nagpur) which has developed and released processes for production of energy food, amyloglucosidase enzyme, fish meal and oil, and cocoa mass; the Central Drug Research Institute, Lucknow (estd. 1951) which has standardized processes for L-dopa, an imported drug used in the treatment of parkinsonism, and in domethasin, an imported anti-inflammatory drugs the Central Leather Research Institute, Madras (estd. 1953; extension centres at Bombay, Calcutta, Jullundur, Kanpur and Rajkot) which has developed a pancreatin like enzyme product, using pancreas of cow, sheep, buffalo and goat, for efficient removal of gelatin coatings from cellulose acetate photographic films; the National Botanical Research Institute, Lucknow (taken over in 1953; research stations at Bangalore and Banthra) which has developed know-how for mass propagation through tissue culture of *Discorea floribunda*, a commercial source of diosgenin; the Indian Institute of Experimental Medicine, Calcutta (taken over in 1956) which has developed a process for fractionation of plasma proteins at room temperature; the Regional Research Laboratory, Jammu (taken over in 1957; field stations at Chatham, Palampur, Srinagar and Varinag), which has developed know-how for the production of progesterone from diosgenin; the Central Institute of Medicinal and Aromatic Plants, Lucknow (estd. 1959; regional centres at Bangalore, Pant Nagar, Jammu, Kodaikanal and Darjeeling and commercial farms and factories at Jammu and Srinagar) which is providing aromatic and medicinal plant products to the pharmaceutical and perfumery industries; the Industrial Toxicology Research Centre, Lucknow (estd. 1965) which studies the harmful effects of industrial toxins for developing preventive measures; the Tea Research Association (estd. 1965) which supports scientific research and advisory work for the betterment of the tea industry in India, and the Centre for Cellular and Molecular Biology, RRL, Hyderabad (estd. 1976) which undertakes fundamental research in the frontier areas of cellular and molecular biology.

Engineering Sciences

The national laboratories under the engineering sciences group are : the Central Glass & Ceramic Research Institute, Calcutta (estd. 1950; regional centre at Ahmedabad) which has developed process know-how based on which optical glass is being commercially produced at the Bharat Ophthalmic Glass Ltd., as a result of which the entire requirement of the country for optical glass can be met from indigenous sources; the National Metallurgical Laboratory (estd. 1950; regional stations at Ahmedabad, Batala, Calcutta, Digah, Howrah and Madras) whose technology for sponge iron has been utilised in India's first sponge iron plant (capacity, 25-30 thousand tonnes/annum) at Vijayawada; the Central Road Research Institute, New Delhi (estd.

1952) which has developed a high-amplitude screen board vibrator for compaction of concrete; the Central Research Institute, Roorkee (estd. 1953; field station at Calcutta and extension cells at Ahmedabad and Bhopal) whose construction techniques are being applied in various states for the construction of low-cost houses; the Central Mechanical Engineering Research Institute, Durgapur (estd. 1958; R&D centres at Calcutta, Cochin, Durgapur, Ludhiana, Madras and Pune) which has developed a completely indigenous high speed single-stage centrifugal air compressor and tip ice maker; the Central Mining Research Station, Dhanbad (estd. 1956) whose work includes mine safety, design of equipment used in mining and development of mining machinery; the National Environmental Engineering Research Institute, Nagpur (estd. 1958; zonal laboratories at Ahmedabad, Bombay, Calcutta, Cochin, Delhi, Hyderabad, Jaipur, Kanpur and Madras) which carries out research in sanitation, disposal of sewage and industrial wastes, industrial hygiene and pollution; the National Aeronautical Laboratory, Bangalore (estd. 1959) which has set up a 1.2 m tri-sonic wind tunnel and a materials laboratory as national facilities; the Structural Engineering Research Centre, Madras (estd. 1965) which does research in specialised designs and structural problems connected with buildings, bridges and other structures; the Regional Research Laboratory, Bhubaneswar (estd. 1964) which has made special pansintering studies for iron works in Orissa; Regional Research Laboratory, Trivandrum (estd. 1978) which has given consultancy for canning and bottling of green pepper; and the Electrical Research and Development Association, Vadodara (recognised by CSIR in 1977) which has offered consultancy services to the electrical manufacturing industry.

CECON

The Civil Engineering Consultancy Service (CECON) was set up by the CSIR in 1975. Its constituent units are: the Central Building Research Institute, Roorkee; the Structural Engineering Research Centre, Roorkee and Madras; the National Environmental Engineering Research Institute, Nagpur; the Central Road Research Institute, New Delhi; the Cement Research Institute of India, New Delhi and the National Botanical Research Institute, Lucknow.

CECON, which functions from the premises of the Central Road Research Institute, New Delhi, provides national and international consultancy services in civil engineering, particularly to developing countries.

Information Sciences

The Publications and Information Directorate (PID), New Delhi (estd. 1951), and the Indian National Scientific Documentation Centre (INSDOC), New Delhi (estd. 1952), of CSIR are engaged in dissemination of scientific and technical information. The PID brings out encyclopaedic volumes on raw material resources and industrial products under the general title "Wealth and India" and ten scientific research periodicals besides other publications on scientific and technical information. It has launched a new bi-monthly journal "Medicinal and Aromatic Plants Abstracts". The INSDOC provides documentation and translation services and maintains a National Science Library. It also publishes Indian Science Abstracts and Annals of Library Science and Documentation and compiles a series of catalogues which list the holdings of specialised libraries and establishments.

The CSIR also maintains two science museums. The Birla Industrial and Technological Museum, Calcutta, has eleven galleries depicting a chronological history of science and technology through working models, animated exhibits, diagrams and illustrated charts. The Visvesvaraya Industrial and Technological Museum (VITM), Bangalore, arranges workshops, mobile exhibitions, demonstration lectures, science fairs and seminars to depict advancement in science and technology, and has galleries on electrotechnic, motive power, timber and paper and popular science.

CSSTD

The Centre for Study of Science, Technology and Development (CSSTD) (estd. 1974) undertakes studies to understand the mechanics of socialisation of scientific and technological developments and utilise the knowledge in the planning of science and technology development. The Centre has carried out a number of studies in the areas of technology assessment and alternative technologies, planning of science and technology, dynamics of science, technology and society and scientific and technical manpower planning. In view of its importance, the Centre has recently been declared an autonomous entity having the status of a national laboratory.

Fibre Technology

Six associations conduct research in fibre technology. They are : Ahmedabad Textile Industry's Research Association, Ahmedabad (estd. 1947), which has designed a flash economizer unit for the recovery of heat from boiler blowdown; the Bombay Textile Research Association, Bombay (estd. 1954), which has developed a device for checking the runout of gears and yarn tension meter; the South India Textile Research Association, Coimbatore (estd. 1951), which has developed know-how based on which the commercial production of 'two-for-one' twister and 'Sitralized' spindle tape, chemically treated for increased wear life of cellulose, has been undertaken; the Silk and Art Silk Mills' Research Association, Bombay (estd. 1950), which has developed ultra-violet absorbers for prevention of photo-degradation of polyamide fibres; the Indian Jute Industries' Research Association, Calcutta (estd. 1966), which has developed a more economic jute bag without any polyethylene lamination for packing both phosphatic and nitrogenous fertilizers and has also developed attractive yarns from blends of jute/rayon and jute/wool; and the Wool Research Association, Bombay (estd. 1963), which has developed a technique of computerised colour match prediction.

The Central Glass and Ceramic Research Institute, Calcutta, has developed a technology for the production of fibre glass in small scale sector.

AGRICULTURAL RESEARCH

The Department of Agricultural Research and Education, set up in 1973, is responsible for coordinating research and educational activities in the field of agriculture, animal husbandry and fisheries in India. Besides, it helps to bring about inter-institutional and intra-institutional collaboration both at national and international levels, among agencies like the International Atomic Energy Agency, the Food and Agricultural Organisation of the UN, etc., engaged in the same and allied fields. It also gives administrative support to the Ministry of Agriculture in matters relating to agriculture, animal husbandry, etc. The Department of Agricultural Research and Education provides government linkage to the Indian Council of Agricul-

ral Research (ICAR).

The Indian Council of Agricultural Research, set up in 1929, is the apex body for formulating plans and coordinating agricultural, animal husbandry and fisheries education and research and their application at field level through the medium of the extension agencies under the central and state governments as also through the agricultural universities. To attract meritorious students to agriculture, the ICAR offers a large number of senior and junior fellowships and scholarships at graduate and post-graduate levels.

The Agricultural Research Service has been functioning since October 1975, under the auspices of the ICAR and through the specially constituted Agricultural Scientists Recruitment Board. This service facilitates maximum utilisation of the available manpower and enables the desired mobility of scientists from one position to another as may be required in the interests of agricultural research and education.

MEDICAL RESEARCH

Medical research in India is mainly done through the Indian Council of Medical Research (ICMR), New Delhi, through a network of research institutes and centres covering a wide spectrum. The ICMR, set up in 1911, has 15 permanent research institutions and centres, namely, National Institute of Nutrition, Hyderabad; National Institute of Virology, Pune; Tuberculosis Research Centre, Madras; National Institute of Cholera and Enteric Diseases, Calcutta; Institute of Pathology, New Delhi; National Institute of Occupational Health, Ahmedabad; Institute for Research in Reproduction, Bombay; Central JALMA Institute for Leprosy, Agra; Blood Group Reference Centre, Bombay; Vector Control Research Centre, Pondicherry; Malaria Research Centre, Delhi; Institute for Research in Medical Statistics, New Delhi; Laboratory Animal Information Services, Hyderabad; Food and Drugs Toxicology Centre, Hyderabad; and Cytology Research Centre, New Delhi.

There are two statutory bodies to conduct research in various branches of medical sciences. These are the All India Institute of Medical Sciences, New Delhi, and the Post-Graduate Institute of Medical Education and Research, Chandigarh. There is also an All India Institute of Speech and Hearing at Mysore which has been functioning under the Ministry of Health and Family Welfare since 1965. Clinical facilities are available at all these institutes.

Directorate General of Health Services also supports selected research projects in relation to *kala azar*, plague and other infectious diseases, public health problems, etc., under "Grants to Other Research". Under the scheme, financial assistance is provided to various institutions/voluntary bodies for carrying out studies, surveys and research in specific fields. At present, two projects, namely "Kala Azar Unit, Patna" and "Plague Surveillance Unit, Bangalore" are in progress.

Study of Diseases and Treatment

Some of the institutions doing work in particular branches of medicine and treatment are the Indian Cancer Research Centre, Bombay; Cancer Institute, Madras; and the Chittaranjan Cancer Research Centre, Calcutta, besides the cancer wing being developed at the Institute Rotary Cancer Hospital at the All India Institute of Medical Sciences, New Delhi, as a regional institution for cancer; the National Tuberculosis Institute, Bangalore and Vallabhbhai Patel Chest

Institute, Delhi, where research in chest ailments including tuberculosis is done. Central Leprosy Teaching and Research Institute, Chingleput, which trains medical and para-medical personnel, treats leprosy patients and is recognised as a WHO regional centre for certain investigations in leprosy. The National Institute of Communicable Diseases, Delhi, (previously known as the Malaria Institute of India, established in 1909) with its seven branches is engaged in research training and rendering service in communicable diseases. It also plans, guides and evaluates the National Filaria Control Programme which has been designated as a WHO reference centre for some communicable diseases.

The All India Institute of Hygiene and Public Health, Calcutta, set up in 1932, undertakes training and research in the field of public health, family planning, nutrition and allied matters. The Rural Health Unit and Training Centre, Singur, and the Urban Health Centre, Chelita, are attached to this institute. Biological and chemical assays of drugs are carried out at the Central Drugs Laboratory, Calcutta, which also maintains a herbarium and gives technical advice to drug manufacturers.

**Micro-biology
and
Related Studies**

The Central Research Institute, Kasauli, is the central drug laboratory for all biological products. It has been entrusted with the responsibility of evolving national standards and distributing both the national and international standards for standardising biological products manufactured in the country. The Institute functions as the national centre for giving expert advice both to the government and public on rabies, yellow fever, snake-bite, cholera, typhoid, whooping cough, tetanus and diphtheria. It carries out both basic and applied research in the prevention of communicable diseases. The Institute is the largest and comprehensive producer of biological products in the country. Besides carrying out diagnostic tests, it provides antigens, anti-sera and technical advice regarding diagnostic procedures for the public health and hospital laboratories. It has started preliminary work for the production of measles vaccine and has also prepared a project report for the production of Japanese encephalitis vaccines. The Pasteur Institute, Coonoor, does research in rabies, influenza, other respiratory virus infections, diseases caused by intestinal viruses like polio, coxsackie and ECHO group and bacterial diseases like enteric fevers and syphilis. It is the main centre for research on rabies and influenza in the country. It serves as the international reference centre of WHO on rabies and National Centre for Work on Influenza. The King Institute of Preventive Medicine, Guindy, Madras, gives post-graduate training in micro-biology, makes supplies of prophylactic vaccines, freeze-dried small-pox vaccine, anti-tetanus sera, tetanus toxoid, blood products and intravenous and special solutions of various kinds. It also undertakes public health bacteriological investigations. The Haffkine Institute, Bombay, established in 1896, does research in bacteriology, experimental medicine, chemotherapy, pharmacology, pathophysiology, biochemistry, immunohaematology, immunology and virology related to communicable and other diseases. It also undertakes drugs analysis and biological standardisation. It trains scientists for post-graduate degree and provides public health laboratory services by way of diagnosis of diseases and epidemiological investigations. It manufactures some

bacterial and viral vaccines, anti-toxins and other biologicals including human plasma products.

DEFENCE RESEARCH

The Defence Research Development Organisation (DRDO) was established in 1958 by amalgamating some of the then existing Technical Development Establishments with the Defence Science Organisation. It has since undergone a phased programme of build up and expansion in various fields of defence science and technology and has a wide network of well-equipped establishments/laboratories, including a few field units. The scope of its activities covers a wide span of disciplines, viz., armaments (small arms, guns, ammunition, instruments, ballistics); explosives and propellants; rockets and missiles; electronics (including radars, communication); aeronautics (gas turbine engines, avionics system); naval science and technology (physical, chemical, metallurgical aspects and underwater weapons); structural and civil engineering; vehicles (including armoured fighting vehicles); general stores, materials technology and applied sciences (metals, ceramics and chemicals).

The tasks undertaken in DRDO establishments are of two types; Staff Projects taken up against specific Service QRs (Qualitative Requirements) and RD Projects taken up with a view to build up expertise in the contemporary and futuristic technologies of relevance to defence.

In addition to defence organisations, close liaison is maintained with the civil academic and research institutions in the country with a view to exploit the expertise and potential available in the national organisations for defence work. A number of projects are farmed out to various institutions under the grants-in-aid schemes. Whenever the processes/techniques developed by DRDO have civil applications in addition to defence, these are released to private industry for commercial exploitation.

DEPARTMENTAL RESEARCH

A number of other government departments are responsible for certain branches of research. Some of them are described below.

GEOLOGY

The Geological Survey of India (GSI) with headquarters at Calcutta was established in 1851 largely for prospecting coal in eastern India. Now, GSI is the principal agency responsible for preparation of geological, geochemical and geophysical maps of the country including offshore areas, for the exploration and assessment of the mineral resources in the country, for the execution of the studies pertaining to the environmental geology and geotechnical services for assisting various environmental developments and engineering projects and for all earth sciences activities that have direct and indirect impact in the field of mineral, industry, power, irrigation, agriculture and management of environment. Some other major branches of research carried by the Department include petrology, palaeontology, field technique and geochemistry. The results of the studies are disseminated through maps and publications brought out by GSI which functions through 6 regional offices, 32 circle offices and a number of specialised divisions.

Hydraulic and Power Research

The Central Water and Power Research Station at Khadakvasala near Pune, the premier hydraulic research station in India, is recognised by the Economic and Social Commission for Asia and the Pacific (ESCAP) as its regional laboratory. There are 15 other hydraulic

research stations in the country and also three Soil Mechanics and Material Research Stations dealing with the problems connected with river valley projects development. The Central Board of Irrigation and Power supervises and co-ordinates the work done by three research stations as well as the work done by the various power research stations on power stations and transmission systems.

Meteorology

The India Meteorological Department, organised on an all India basis in 1875, is the national agency for providing service in the field of meteorology. Meteorological data are collected from over fourteen hundred observatories of different types and processed by the department. The Department, alongwith the Indian Institute of Tropical Meteorology (IITM), Pune, conducts fundamental and applied research in different fields of meteorology, weather forecasting, meteorological instrumentation, radar meteorology, seismology, agricultural meteorology, hydrometeorology, satellite meteorology and air pollution. The IITM has also been conducting cloud seeding experiments for producing rain artificially. Meteorological research is also conducted at some universities and institutes, notably, the Andhra University, the Benaras Hindu University and the Cochin University and the Indian Institute of Technology, New Delhi and the Indian Institute of Sciences, Bangalore.

The Indian Institute of Astrophysics (IIA), Bangalore, the Indian Institute of Geomagnetism (IIG), Bombay and the IITM, Pune, which were formerly a part of the India Meteorological Department, have been functioning as autonomous institutes since 1971. The IIA conducts research in solar and stellar physics, radio astronomy, cosmic radiation, etc. The IIG records magnetic observations and conducts research in geomagnetism.

BROADCASTING

The research department of All India Radio investigates problems of both sound and TV broadcasting. The functions of the department are broadly shared by four sections—propagation and technical services, acoustics and audio engineering, research and development, and prototype and production. Different problems related to radiowave propagation from longwave centimeter waves including satellite broadcasting are investigated in the propagation section. The department has a well-equipped acoustic laboratory for conducting measurements on microphones and loudspeakers, absorption properties of various acoustic materials and noise insulation. The research and development section works on the development of equipment with a view to bringing about self-reliance and self-sufficiency. The prototype section undertakes production of some specialised type of equipment developed by the research and development unit, not available off-the-shelf and required in limited quantities.

During 1979, the department conducted investigations in LP band for the development of a method for short-term predictions of ionospheric disturbances and to study the morphology of lower ionosphere. In addition, investigations were carried out in MF band for polarisation coupling loss and sea-gain effects; in HF band for a suitable field strength prediction method; in VHF band for field strength prediction curves and in 12 GHz to evaluate the rainfall attenuation margin.

Items of equipments developed in 1979 include automatic ionospheric recorder for ionospheric research, low cost AM/FM receiver,

FM modulation monitor for measuring the percentage modulation of FM and the deviation of FM transmitter frequency, an improved version of FM receiver for studio-transmitter programme link and a second improved model of digital controlled electronics switching console.

Technical know-how of amplitude modulation monitor, FM receiver and transmitter and digital master clock system, developed in the department, were transferred to commercial organisations.

Telecommunication

In its endeavour to keep pace with modern technological growth in the field of electronics and communications the world over, the Posts and Telegraphs Department had set up in 1956 a Telecommunication Research Centre (TRC), which is located at New Delhi. The research centre is engaged primarily with the introduction of the technology and up-dating and improving the existing technology and equipment in the P and T network. It provides guidance to the planning and operational branches of the P and T Department.

TRC has developed designs for a number of systems both in the transmission and switching areas and most of these continue to be under production by the State-owned Indian Telephone Industries, Hindustan Teleprinters Ltd. and Hindustan Cables Ltd. Of late, TRC has even been encouraging manufacturing agencies like Bharat Electronics Ltd. and the state sector units like Gujarat Communications Electronics Ltd. to manufacture communication equipment designed totally by the TRC or by the TRC in collaboration with the manufacturers. TRC has contributed in developing full capability to manufacture power equipment for the communication systems in the private sector.

At present, TRC is working in the areas of optical fibre communication equipment, digital systems on media like coaxial and microwave; data modems and electronic exchange systems for various uses like local telephone systems, trunk telephone systems, tandem exchanges, telex, etc. TRC is also working in coordination with Indian Space Research Organisation in finding out methods for optimum usage of the satellite communication in advance of the Indian satellite being launched sometime in 1982.

Anthropology

The work of the Anthropological Survey of India, with headquarters at Calcutta, includes social, psychological, economic, linguistic, physical and genetic investigations. It has its regional offices at Dehra Dun, Mysore, Nagpur, Port Blair, Shillong and Udaipur and a sub-regional office at Jagdalpur. The ASI has a fellowship programme to encourage anthropological research in India and a collaborative research programme with universities and other research institutions.

Aviation

The Department of Civil Aviation has a Directorate of Research and Development concerned with the design and air-worthiness of civil aircraft and equipment, aircraft performance testing, development of indigenous aircraft materials, design and manufacture of prototype of gliders and training aircraft, selection of suitable aircraft types for civil operations and safety in air operations.

The Institute of Aviation Medicine, Bangalore, set up in 1957 by the IAF, deals with human problems relating to aircrew and flight

safety and carries out research and medical evaluation.

The Research, Designs and Standards Organisation, Lucknow, the Indian Roads Congress, New Delhi, and the Forest Research Institute, Dehra Dun, conduct research with a bearing on railways, roads and timber, respectively.

The Constitution of India lays down that "the State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties". To give effect to this directive, health has been given due priority.

Public Health is primarily the responsibility of the state governments. The central government, however, guides, sponsors and supports major schemes for improving the health of the people. The Ministry of Health and Family Welfare co-ordinates the work of the state governments. The Central Council of Health advises the ministry on policies and programmes in all their aspects.

OBJECTIVES

The primary objective in the Health Sector during the Sixth Plan (1980-85) is to provide better primary health care and medical care services to rural areas, tribal areas and poor people, with the underlying philosophy that 'the needs of many people should prevail over those of a few'. The driving force behind the health planning is the commitment of the nation to achieve the goal of 'Health for all by 2000 A.D.'

PHYSICAL TARGETS AND ACHIEVEMENTS

Planned development of over two and a half decades has resulted in vastly improved health facilities. The number of doctors and hospital beds has increased by more than two and a half times and that of nurses by more than five times. The number of medical colleges has increased from 30 before the First Plan to 106 at present. In rural areas, there are 5,499 primary health centres and 49,323 sub-centres at present whereas none existed before 1951. Malaria, TB and Cholera which used to take a heavy toll of life have been controlled to varying degrees. No case of plague has been reported in the country since 1967. Small-pox which was a dreaded disease, has been eradicated. The general death rate has come down from 27.4 per thousand in 1949-50 to an estimated 14 per thousand in 1980 and life expectancy at birth has increased from 32 years to 52 years in 1980. The infant mortality rate has come down from 135 in 1973 to 125 in 1978.

To check the rate of growth of population, the family welfare programme was launched in 1952 as a national programme. In June 1977, the government in consultation with the states reviewed the national population policy declared in April 1976 and formulated a new approach so as to attain the demographic goal of reducing the birth rate to 30 per thousand by 1982-83.

The revised Minimum Needs Programme along with the training of multi-purpose health workers and a more vigorous pursuit of the programme to eradicate or control communicable diseases form the core of health care. The backward and tribal areas are now receiving preference in the implementation of the health programmes.

A number of training centres for different categories of health workers, i.e., nurses, sanitary inspectors, para-medical workers, non-medical supervisors, physiotherapists, etc., exist now. The plan of action on the report of "Group on Medical Education and Support Manpower" for a three-tier reconstruction of the entire health care system, has been worked out. The scheme of involvement of community level workers, i.e., teachers, postmasters and gram-sevaks, after a short train-

ing, for delivery of nutrition, health and family welfare services as a package service is under implementation.

Table 8.1 gives the pattern of investment in different plan periods.

TABLE 8.1
PATTERN OF
INVESTMENT

Plan Period	Total Plan Investment	Health Outlay	(Rs crores)
			Allocation to health as per- centage of total allocation.
First Plan (1951—56)	1,960.00	65.20	3.30
Second Plan (1956—61)	4,672.00	140.80	3.00
Third Plan (1961—66)	8,576.00	225.90	2.60
Annual Plans (1966—69)	6,625.40	140.20	2.10
Fourth Plan (1969—74)	15,778.80	335.50	2.10
Fifth Plan (1974—79)	39,322.00	532.70	1.40
Annual Plans (1978—79)	11,650.00	(1974-78) ¹ 232.51	1.99
Anticipated (1979-80)	12,601.00	278.16	2.20
Expenditure			
Sixth Plan (1980—85)	97,500.00	1,821.05	1.86
Tentative Outlay (1980-81)	14,593.00	323.08 ²	2.21

¹Plan period was curtailed by one year

²Outlay

ERADICATION
AND CONTROL
OF COMMUNI-
CABLE
DISEASES

To eradicate and control major communicable diseases a number of national programmes are in operation, e.g., National Smallpox Eradication Programme, National Malaria Eradication Programme and National Leprosy Control Programme besides the control programmes for TB, filaria, trachoma, cholera and sexually transmitted diseases.

Malaria

Malaria took a toll of 7.5 lakh lives in the post-independence period. A Malaria Control Programme was, therefore, launched in 1953. In 1958, it was converted into National Malaria Eradication Programme. It succeeded in reducing the incidence from 7.5 crores in the post-independence period to only 1.00 lakh in 1965. Further, there were no deaths due to malaria in 1965. But the situation thereafter deteriorated year after year. The incidence of malaria increased from 1.48 lakh in 1966 to 64.7 lakhs in 1976. The government had introduced a modified plan of operation from 1977 to tackle the situation effectively. Since 1979 the incidence of malaria is showing a downward trend.

Training of personnel in methods of malaria eradication is imparted at the National Institute of Communicable Diseases, Delhi, and the regional offices of health and family welfare at Bangalore, Bhubaneswar, Hyderabad, Lucknow, Shillong and Vadodara.

Smallpox

Smallpox was another great killer before 1947. So the National Smallpox Eradication Programme was launched in 1962 with emphasis on intensive primary vaccination campaign and revaccination of vulnerable groups of population. As a result, the incidence of smallpox was brought down to zero in July 1975. Surveillance activities were, however, continued. The country was declared to have eradicated smallpox by the International Assessment Commission on 23 April 1977.

Leprosy

The National Leprosy Control Programme has been operating since 1955. The number of people exposed to leprosy risk is about 37.2 crores, of which 32.4 crores have been covered so far. The estimated leprosy cases are about 32 lakhs, of which about 8 lakhs are infectious. About 25.2 lakh cases have been recorded and are being given treatment through 382 leprosy control units, 6,590 SET (survey, education and treatment) centres, 430 urban leprosy centres and 190 temporary hospitalisation wards (each of 20 beds), 231 leprosy homes and hospitals having over 32,800 beds. Seventy-one reconstructive surgery units are also working for prevention and correction of deformities of hands, feet and face.

Forty national and eight international voluntary organizations are also participating in the programme with their men, money and material.

Training of medical and non-medical personnel is conducted through 42 (32 government and 10 voluntary) training centres and Central Teaching and Research Institute, Chingleput, (Tamil Nadu), which also conducts research. The Japanese Leprosy Mission for Asia, (JALMA), Agra, taken over and renamed Central Leprosy Research Institute, is now working under the Indian Council of Medical Research. One regional leprosy training research institute has been opened at Raipur and another at Aska (Orissa).

The leprosy advisory committee has been reconstituted as National Leprosy Advisory Committee as a high power body for the National Leprosy Control Programme and to formulate new policies relating to the programme. A provision of Rs 348.86 lakhs was provided in the revised budget for 1980-81 under the Central Health Sector.

Filaria

The National Filaria Control Programme has been in operation since 1955. It is estimated that 23.6 crore people are exposed to the risk of filariasis with 1.4 crores having manifestation of the disease and 1.8 crores with filarial parasites in their blood.

Activities under the programme are at present confined only to anti-larval operations in urban areas where 165 filaria control units provide protection to 2.4 crore persons. Seventy-six filaria clinics are also functioning in rural areas. Besides, 12 Headquarters Bureaux are also functioning at the state level. So far, only 207 out of 290 districts in the endemic states have been surveyed. During the Fifth Plan 31 survey units were to be set up for delimitation of the problem in the remaining unsurveyed districts. Of these 26 have been established.

Training in filariology is given at the three Regional Filaria Training and Research Centres at Calicut (Kerala), Rajahmundry (Andhra Pradesh) and Varanasi (Uttar Pradesh).

Tuberculosis

Nearly 80 out of every one lakh people die of TB every year in the country. The BCG Vaccination Programme was started in 1949. About 25.46 crore persons had been tuberculin tested and 25.28 crore persons vaccinated till the end of March 1980. Since 1973, dried vaccine is being produced for supply all over the country. Estimates indicate that there are about 90 lakh radiologically active TB cases, of which nearly 22 lakhs are infectious. Over 600 clinics have been set up, of which 320 have been upgraded as district TB centres to undertake district-wise TB control programme. Nearly 43,350 TB

beds are available for in-patient treatment. Seventeen centres provide training facilities to the medical and para-medical personnel in different parts of the country. The National TB Institute, Bangalore, conducts re-orientation courses for medical and para-medical personnel from different states for the implementation of the district TB programme. The Institute also carries out operational research in the field of tuberculosis. Steps are being taken to increase the production of BCG vaccine to meet increased requirements.

The voluntary TB organisations including the Tuberculosis Association of India, which is the largest voluntary organisation, also assist in combating the disease. There are more than 200 state and district TB associations all over the country.

Sexually Transmitted Diseases

At present, 240 sexually transmitted disease clinics are functioning in the country. Training facilities in VD control are available at the training centre, Safdarjang Hospital, New Delhi, and the Institute of Venereology, Government General Hospital, Madras. A second VDRL Antigen production unit at Calcutta and a mobile VD unit at Delhi have also started functioning.

A survey-cum-detection team has been established at the National Institute of Communicable Diseases, Delhi, to determine the epidemiological aspects of syphilis and gonorrhoea in the high risk group, *i.e.*, college students, technical students, industrial skilled and non-skilled labour, etc. In addition, the team also provides therapeutic services to the patients detected in the survey.

Trachoma

The National Trachoma Control Programme, started in 1963, continues to be in operation almost throughout the country. About 450 lakh people are suffering from visual impairment and over 90 lakhs are blind, including about 60 lakhs who can be cured by operations.

By the end of 1981, 45 fully equipped mobile units are expected to be functioning in different parts of the country to : (i) conduct eye operation camps, (ii) educate the people on eye health care, and (iii) conduct survey of causes and incidence of blindness. Medical college hospitals and other hospitals in the states are to be equipped properly to improve the quality of treatment, research and training in ophthalmology.

Apart from the mobile units, 200 district hospitals would be equipped so as to start an eye unit in each district and 1,600 primary health centres are to be strengthened. The existing 6 institutes of ophthalmology and Dr. Rajendra Prasad Centre of Ophthalmic Sciences shall be assisted to achieve the objectives of the programme. Fifteen medical colleges are expected to start revised ophthalmic assistants training programme.

Cancer

At present 110 general hospitals offer facilities for cancer treatment by surgery, radio-therapy and chemotherapy. Research into problems of cancer is conducted at 16 hospitals and institutes situated in various parts of the country.

The Indian Council of Medical Research has initiated collaborative studies on oral, cervical and breast cancer at various centres in the country.

On the recommendations of the Standing Committee on Cancer and Teletherapy Units, the government has decided to upgrade cancer centres at Gwalior, Cuttack, Ahmedabad, Gauhati, Trivandrum and

Health and Family Welfare



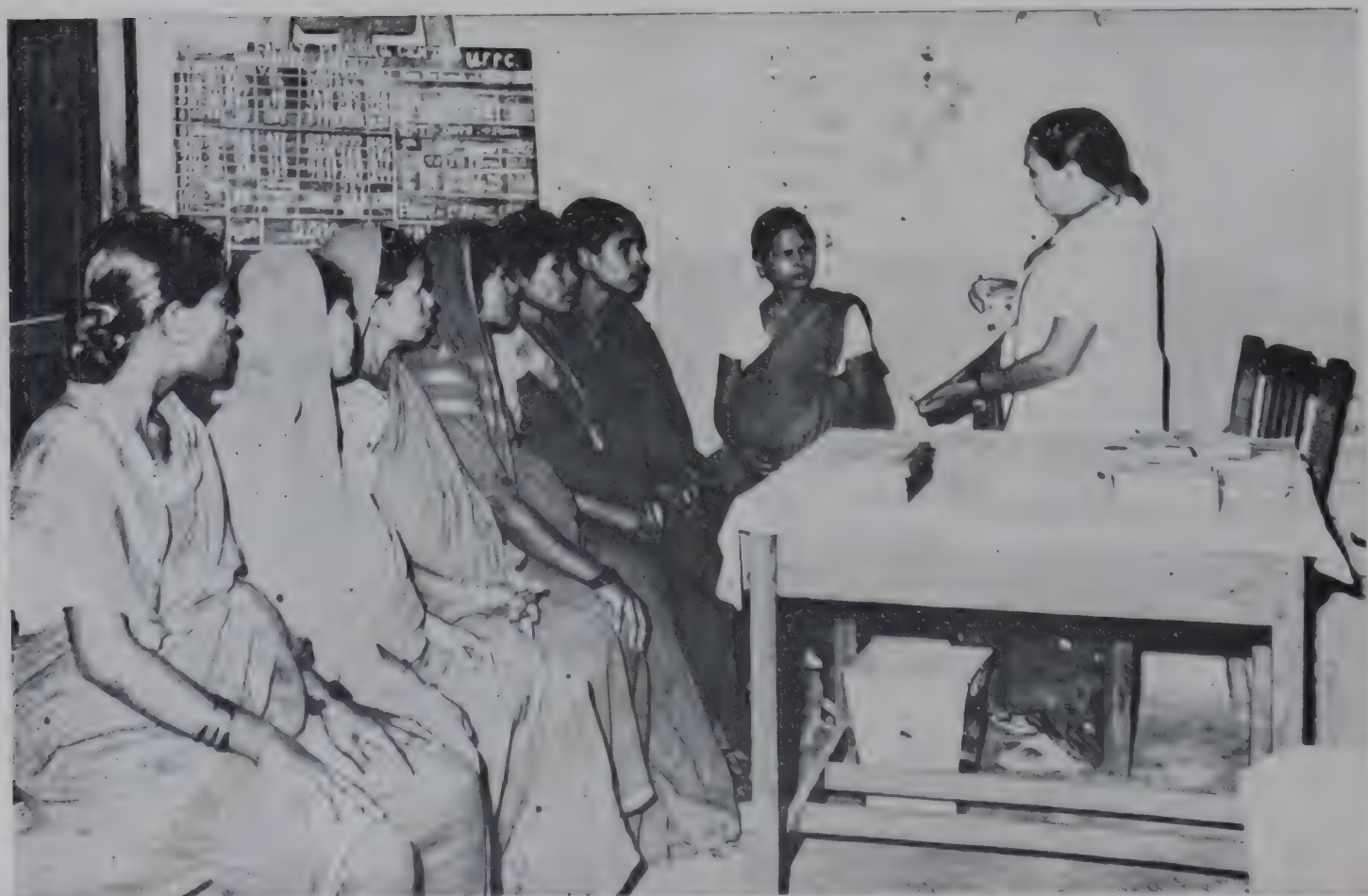
Doctor's question-answer session with women



The Doctor explaining the benefits of a small family



Lady health educator explains use of loop to village women



Lady doctor explains family planning methods to village women

International Year of the Disabled Persons



Blind students engaged in cane and plastic weaving of furniture



Prime Minister Indira Gandhi inaugurated the International Year of Disabled Persons 1981 at a function in New Delhi on 5 January 1981. She is going round an exhibition of aids for the handicapped.



Logo for International Year of Disabled Persons



A handicapped person manning telephone booth and he gets 20 paise per call made from the booth. Sixty such booths are in operation in the country.

Bangalore as regional cancer centres during the Sixth Plan period in addition to the existing four regional cancer centres already functioning at Bombay, Calcutta, Madras and New Delhi. Further, it is giving financial assistance to install cobalt therapy units in nine cancer centres at Bhopal, Calicut, Cuttack, Gauhati, Gorakhpur, Jodhpur, Panaji, Patna and Srinagar and to establish early cancer detection centres. Certain aspects of work in the field of cancer are being undertaken at five more institutions.

A sum of Rs. 1,150 lakhs has been provisionally kept for cancer research and treatment during the Sixth Plan period.

Goitre

The National Goitre Control Programme was launched towards the end of the Second Five Year Plan to tackle the problem of controlling goitre which is epidemiologically associated with mental retardation, retardation of physical growth, specially in young children and adolescents, deafness, cretinism and thyroid cancer at later stage. The core of the programme is : (i) survey of goitre to identify the endemic goitre areas, (ii) production and supply of iodised salt to the endemic areas, and (iii) re-survey after five years of continuous supply of iodised salt in the endemic areas to assess the impact of the programme.

In India, endemic goitre is found in the entire sub-Himalayan range covering portions of the states of Jammu and Kashmir, Himachal Pradesh, Punjab, Haryana, Uttar Pradesh, Bihar, West Bengal and all the north-eastern states. It is also found in one district of Maharashtra and two districts of Madhya Pradesh. The average prevalence in these areas is 35 per cent ranging from 10 to 70 per cent.

Twelve salt iodisation plants have been installed with the help of UNICEF for the manufacture of iodised salt. It is distributed in the endemic goitre areas and the cost of iodisation is borne by the central government as a subsidy. Two more plants have been installed in Assam.

HOSPITALS AND DISPENSARIES

Medical services are primarily provided by the central and state governments. Certain charitable voluntary and private institutions also provide medical relief. The Central Government Health Scheme is at present in operation in 15 big cities covering about 24.60 lakh beneficiaries. The district and sub-divisional hospitals are being further developed by removing deficiencies for referral services. The number of hospital beds (government and private) was 5.2 lakhs in 1978 as compared to 1.13 lakhs in 1951-52. The bed-population ratio is now 0.83 beds per 1000 population which was 0.24 at the commencement of the First Five Year Plan. The estimated number of active doctors and nurses at the end of 1978-79 was 1.72 lakhs and 1.13 lakhs respectively.

Central Government Health Scheme

The central government health scheme was launched in July 1954 for central government employees and their families in Delhi and New Delhi. It now covers Allahabad, Bombay, Calcutta, Kanpur, Madras, Bangalore, Hyderabad, Meerut, Patna, Nagpur, Pune, Jaipur, Ahmedabad and Lucknow. Central Government pensioners and widows of central government employees, who are getting family pension, are also eligible for the scheme. The staff and families of certain autonomous and semi-government organisations in Delhi, Members of Parliament and Delhi Police employees and their families are also covered by it. In certain selected areas in Delhi

the scheme has been extended to the public on payment of prescribed charges.

Primary Health Centres

The primary health centre forms the base of the integrated structure of medical services in the rural areas. At the end of December 1980, 5,499 centres were functioning in the country. The primary health centres and 49,323 sub-centres provide basic medical care to the community through multi-purpose health workers. It is proposed to have a male as well as a female health worker for every 5,000 population by 1982-83.

INDIAN SYSTEMS OF MEDICINE

The Indian systems of medicine are very popular among the rural population. They consult hereditary *Vaidyas* and *Hakims* who practise medicine as a family profession. About 3.7 lakh registered practitioners are practising these systems. In addition, 13,859 dispensaries and 397 hospitals with 9,855 beds are also functioning in the country.

Under-Graduate Education

There are 91 Ayurvedic, 13 Unani, one Siddha and 106 Homoeopathic under-graduate colleges in the country. Out of these about 49 Ayurvedic, 9 Unani and 98 Homoeopathic colleges are run by voluntary organisations. Majority of the colleges are, however, affiliated to the respective universities in the state in which they are established. The central government provides partial financial assistance to some of the private-run colleges under these systems of medicine for construction of college buildings, purchase of equipment, etc., up to a maximum of Rs. 5.00 lakhs. So far, financial assistance has been given to 16 under-graduate colleges of Indian systems of medicine run by voluntary organisations.

Post-Graduate Education

Besides two full-fledged post-graduate institutions in Ayurveda at the Banaras Hindu University, Varanasi, and Gujarat Ayurveda University, Jamnagar, there are 14 post-graduate departments in Ayurveda, one in Unani and two in Siddha which are functioning in Andhra Pradesh, Bihar, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal. All the post-graduate institutions and departments are wholly financed by the Government of India. A National Institute of Ayurveda was established at Jaipur in 1976. It is also proposed to set up a National Institute for Unani in Delhi.

HOMOEOPATHY There are 106 institutions imparting training in homoeopathy which have been recognised by various State Boards and Councils. Seven of these are government institutions. The Homoeopathic Advisory Committee advises the central government on the development of homoeopathy.

The Homoeopathic Pharmacopoeia Committee has brought out so far, three volumes of the Homoeopathic Pharmacopoeia of India.

Under the Homoeopathic Central Council Act, 1973, a Central Council of Homoeopathy was set up on 8 August 1974. It determines the minimum standards of homoeopathic education throughout India and maintains a central register of homoeopathic practitioners.

NATURE CURE The Nature Cure Advisory Committee in the Union Ministry of Health and Family Welfare is responsible for the development of nature cure.

The central government gives grants to 24 nature cure research and educational institutes.

RESEARCH

The Central Council for Research in Indian Medicine and Homoeopathy set up in 1969 was dissolved on 10 January 1979 and four central councils, on the lines of the Indian Council of Medical Research, have been constituted. They are : (i) Central Council for Research in Ayurveda and Siddha, (ii) Central Council for Research in Unani Medicine, (iii) Central Council for Research in Homoeopathy, and (iv) Central Council for Research in Yoga and Nature Cure. These apex bodies in the concerned systems of medicine are financed by the central government.

Central Council for Research in Ayurveda and Siddha : The Council carries out various research programmes, including clinical research, drug standardisation, survey of medicinal plants and literary research in its various institutes/centres. Intensive research programmes on the clinical side were carried out on different diseases including malaria and allergic disorders. Besides laying down analytical standards for a number of popular drugs, it has carried out inter-disciplinary studies on 20 drugs. The medico-botanical survey covered 125 forest areas and collected 3,500 plants and 500 folklore claims. Three research monographs have been published and six are under preparation. The Council brings out a monthly 'newsletter' and a quarterly journal of research in Ayurveda and Siddha.

Central Council for Research in Unani Medicine : Clinical research is conducted at the central and regional institutes and other clinical research units on different diseases like vitiligo, leucorrhoea, sinusitis, jaundice, malaria and trachoma. Six compound formulations and three single drugs have been standardised. The Survey Unit at Srinagar has surveyed 15 forest areas.

The literary research unit edits and translates rare manuscripts. A handbook of common remedies in unani medicine, already available in Hindi and English, has been printed in Urdu and is being translated into Arabic and Tamil.

Central Council for Research in Homoeopathy : It has one central research institute, two regional research institutes and 27 research units to conduct clinical research, drug research, drug proving research and survey programmes. Useful results have been obtained by the Council in the treatment of bronchial asthma, allergic dermatitis, amoebiasis, tonsillitis, sinusitis, rhinitis and arthritis. Six less known drugs in homoeopathy have been proved under drug proving programme and over 30 drugs have already been standardised. Anti-fertility surveys are also being conducted. The Council also publishes a quarterly journal.

Central Council for Research in Yoga and Nature Cure : It continues to provide financial assistance to four leading yoga research institutes which are conducting research on diseases such as diabetes mellitus, bronchial asthma, hypertension, arthritis and chronic gastro-intestinal disorders. It also gives grants-in-aid to 24 nature cure institutions in the country. The Council is entrusted with the task of formulation of curricula for courses in Yoga and Naturopathy. Intensive research work is being carried out in the Central Research Institute in Yoga in collaboration with the All India Institute of Medical Sciences to study the effects of Yoga on various metabolic activities of the body.

- PHARMACY** The Government of India gives financial assistance to state governments for development of state pharmacies and herb gardens up to a ceiling of Rs 8 lakhs per pharmacy. In all, 14 state pharmacies are the beneficiaries. The Indian Medicines and Pharmaceutical Corporation has been set up at Ranikhet (U.P.) as a public sector undertaking for manufacture and supply of genuine Ayurvedic/Unani medicines to CGHS dispensaries/hospitals.
- PHARMACO-POEIA** The first volume of the standard *Ayurvedic Formulary* for 444 compound formulations has been published. The Unani and Siddha formularies are being finalised. A pharmacopoeia laboratory for Indian medicine is functioning at Ghaziabad.
- CONTROL AND MANUFACTURE OF DRUGS** The Drugs and Cosmetics Act regulates the import, manufacture, sale and distribution of drugs and cosmetics in the country. Under the Act, the import, manufacture and sale of sub-standard, adulterated or misbranded drugs are prohibited. The union government is empowered to check the quality of imported drugs, co-ordinate the activities of the states, lay down regulatory measures and standards of drugs and grant approval for import or manufacture of new drugs. The control over the quality of drugs which are manufactured, sold and distributed in the country is exercised by the state governments. Zonal offices of the Central Drugs Standard Control Organisation functioning at Bombay, Calcutta, Ghaziabad and Madras maintain close liaison with the state organisations for enforcement of the provisions of the Drugs and Cosmetics Act. The Central Drugs Standard Control Organisation arranges training programmes for personnel concerned with Drugs Standard Control.
- The Central Drugs Laboratory, Calcutta, functions as the testing laboratory for imported drugs as well as the appellate laboratory under the Drugs and Cosmetics Act to test samples of drugs sent to it by courts. The Central India Pharmacopoeia Laboratory, Ghaziabad, tests samples of non-biological drugs and draws up standard of drugs included in the Indian Pharmacopoeia.
- Prices of Drugs** Prices of bulk drug formulations have been under some kind of statutory control since 1962, but, effectively so since 1970 under the Drug (Prices Control) Order, 1970 which has since been replaced with Drugs (Prices Control) Order 1979. As a result of these measures, the wholesale price index of drugs and medicines has been kept steady vis-a-vis other commodities.
- Vaccine Manufacture** The BCG Vaccine Laboratory, Guindy, Madras, is one of the largest vaccine producing laboratories in the world. It supplies biologicals (PPD, Tuberculin and freeze dried BCG vaccine) free of cost to the states and union territories under a centrally-sponsored scheme. The laboratory is being expanded to double the production of BCG from 3.00 crore doses to 6.00 crore doses.
- The Central Research Institute, Kasauli, supplies vaccine for TAB, cholera, rabies, influenza, anti-venom sera and tetanus toxoid.
- The Haffkine Institute at Bombay manufactures vaccines, anti-toxins and other biologicals.
- There are 14 other institutes manufacturing vaccines. India is self-sufficient in the production of small-pox, BCG, anti-typhoid, anti-cholera and anti-rabies vaccines.

Objectionable Advertisements

The Drugs and Magic Remedies (Objectionable Advertisements) Act, 1955 prohibits the publication of objectionable advertisements relating to sexual stimulants, alleged magic cures for venereal diseases and diseases peculiar to women. The Act, amended in 1963, also controls the import and export of objectionable advertisements in liaison with the customs and postal authorities who can intercept article suspected to contain objectionable advertisements.

Medical Depots and Factories

The Medical Stores Organisation, with six units at Bombay, Calcutta, Gauhati, Hyderabad, Karnal and Madras, procures and ensures supply of quality medical stores and equipment to about 16,000 indenting hospitals and dispensaries all over the country at the most economical rates. It also receives supplies from international agencies like UNICEF and WHO and distributes them to the beneficiaries. It also arranges relief supplies to the victims of natural calamities in the affected areas.

At the factories of the Organisation at Bombay and Madras, a large number of drugs and dressings are manufactured to meet the requirements of the indenting units and for National Malaria Eradication Programme.

HEALTH EDUCATION

The Central Health Education Bureau, set up in 1956, co-ordinates and promotes health education through various national and state health programmes. The main activities of the Bureau, which has six technical divisions, are to interpret the policies and programmes of the Ministry of Health and Family Welfare; to train key health and community welfare workers in health education and research methods; to evolve effective methodology and tools of training; to prepare and distribute sample health education material to states and other agencies; to render technical and other assistance to official and non-official agencies engaged in health education work; to develop health education syllabi for different age groups of school children and teacher training courses at various levels; and to cooperate and collaborate with international agencies in promoting health education activities.

The Bureau publishes four monthly journals, *Swasth Hind* (English), 'DGHS Chronicle' (English-mimeographed), 'Impact' (English-mimeographed) and *Arogya Sandesh* (Hindi) as well as a quarterly *Swasthya Shiksha Samachar* (Hindi-mimeographed). It organises exhibitions and produces films on health, family welfare and other allied subjects.

The Bureau conducts diploma course and certificate course in health education. It also deals with development of health education bureaux in the states and union territories. So far 20 states and 5 union territories have set up health education bureaux units. Seventy-nine district health education units have also been set up.

MEDICAL EDUCATION TRAINING AND RESEARCH

To promote medical education, 106 medical colleges, as against 30 in 1950-51, 15 dental colleges and 11 other institutions are functioning in the country. Establishment of new medical colleges and expansion of the existing ones have raised admission capacity from 2,500 in 1950-51 to over 12,500 in 1977-78. The doctor-population ratio, which was 1 : 5,150 in 1968 improved to 1 : 3,730 by 1978-79.

The Indian Medical Council functions as a guardian for the maintenance of standards in medical education.

Training of Nurses

Facilities for the training of nurses exist in all major hospitals and in colleges of nursing at Ahmedabad, Bangalore, Bombay, Chandigarh, Hyderabad, Indore, Kanpur, Calcutta, New Delhi, Pune, Trivandrum, Jaipur, Gauhati, Ranchi and Vellore. State governments and non-official organisations also organise various courses including auxiliary nurse/midwife/health workers courses. Some of these institutions get central assistance.

There are 277 nursing schools attached to major hospitals in addition to the 8 colleges of nursing affiliated to various universities. The annual turnout from these schools and colleges is over 7,000 and over 200 respectively. Post basic diploma/certificate courses are offered for qualified nurses in public health nursing, paediatric nursing, psychiatric nursing, education and nursing administration. Nine colleges offer post basic B.Sc degree for qualified nurses and three colleges offer master's degree in nursing.

There are 340 auxiliary nurse midwife/health workers schools in the country with an annual admission capacity of over 9,000. The yearly turnout is over 6,000. Since the regular lady health visitors training has been discontinued from September 1977, the schools are being utilised for promotional training course for auxiliary nurse midwives.

Research

The Indian Council of Medical Research initiates, develops and co-ordinates medical research in the country. It is financed mainly by the Government of India. The Council maintains, besides a number of semi-permanent units, 15 permanent research institutes and centres namely, the National Institute of Nutrition, Hyderabad; Virus Research Centre, Pune; Tuberculosis Research Centre, Madras; National Institute for Cholera and Enteric Diseases, Calcutta; Indian Registry of Pathology, New Delhi; National Institute of Occupational Health, Ahmedabad; the Institute for Research in Reproduction, Bombay; the Central JALMA Institute for Leprosy, Agra; Blood Group Reference Centre, Bombay; Vector Control Research Centre, Pondicherry; Malaria Research Centre, Delhi; Institute of Research in Medical Statistics, New Delhi; Laboratory Animal Information Service, Hyderabad; Food and Drug Toxicology Centre, Hyderabad and Cytology Research Centre, New Delhi.

NUTRITION

The health services fight malnutrition through the network of medical and health centres. State nutrition divisions were set up in the health directorates of 18 states and 2 union territories to assess the diet and nutritional status in various groups of population, conduct nutrition education campaigns, supervise supplementary feeding programmes, other nutritional ameliorative measures, baseline surveys and evaluation of the Applied Nutrition Programme. These divisions are also responsible for monitoring the nutritional status of the population in areas affected by natural calamities such as flood and drought. On the recommendation of the central coordination committee for nutrition programmes, action is being taken to establish state nutrition divisions in the remaining four states and seven union territories.

Surveys conducted by the state nutrition divisions and the National Nutrition Monitoring Bureau have revealed that the protein calorie malnutrition and deficiency diseases are prevalent in large sections of the population. The most affected are young children, pregnant and lactating mothers. A number of departments of the

Government of India are implementing nutrition programmes. Most of the programmes which have been started are in the form of supplementary feeding programmes. Important among them are the School Mid-day Meal Programme for primary school children and special Nutrition Feeding Programme for pre-school children and pregnant and lactating mothers. The number of beneficiaries covered is about 1.75 crore. Under the Applied Nutrition Programme, the population in rural areas is encouraged and educated for production and consumption of nutritious foods such as leafy vegetables, fruits, fish and eggs. A scheme known as the 'Integrated Child Care Development Services' has been introduced. Under the scheme, a package of services such as supplementary nutrition education, family welfare services and safe water supply would be provided to the vulnerable groups in 200 selected blocks including urban, rural and tribal areas.

To prevent blindness among children due to vitamin-A deficiency in their diet, a concentrated dose of vitamin-A is given orally every six months through health centres. This programme covered about 84 lakh beneficiaries during the Fifth Plan period. Similarly to prevent nutritional anaemia among women and children, combined tablets of iron and folic acid are being distributed through health centres. The programme covered 1.25 crore beneficiaries till 1977-78.

The National Institute of Nutrition, Hyderabad and the All India Institute of Hygiene and Public Health, Calcutta are the principal organisations in India for nutrition research and training of nutrition workers.

Modern Bakeries

Modern Bakeries (India) Ltd., a public sector undertaking set up in 1965, produces hygienically prepared nutritious bread as well as buns, nans and roties. The Company has at present 13 manufacturing units located at Ahmedabad, Bangalore, Bombay, Calcutta, Chandigarh, Cochin, Delhi, Hyderabad, Indore, Jaipur, Kanpur, Madras and Ranchi. It is presently marketing the soft drink '77' and has acquired two food processing units at Ujjain and Faridabad.

PREVENTION OF FOOD ADULTERATION

The Prevention of Food Adulteration Act, 1954 has been in force since 1 June 1955. By and large, it is implemented by the local bodies in various states and union territories, but due to financial stringencies and other factors the local bodies have not been able to appoint whole-time food inspectors, establish food laboratories and implement the Act with the vigour it needed. Maharashtra, Delhi, Andhra Pradesh, Gujarat, Madhya Pradesh and Bihar have established a separate department to deal with food and drug adulteration whereas the states of Assam, Haryana, Himachal Pradesh, Jammu and Kashmir, Kerala, Orissa, Punjab and West Bengal have appointed whole-time food inspectors. The Act has been amended twice in 1964 and 1976. The amended Act provides for deterrent punishment including life imprisonment with fine. As per the provisions of the amended Prevention of Food Adulteration Act, four central food laboratories on zonal basis, have been notified since April 1978. They are : (i) Public Health Laboratory, Pune, for western zone; (ii) Central Food Technological Research Institute, Mysore, for southern zone; (iii) Food Research and Standardisation Laboratory, Ghaziabad, for northern zone and (iv) Central Food Laboratory, Calcutta, for eastern zone.

The Central Food Laboratories at Calcutta and Ghaziabad are directly under the control of the Director-General of Health Services. The Central Food Laboratory, Calcutta, whose opinion is final and

conclusive evidence for cases referred to by the courts, also carries out investigation work in relation to standardising methods of analysis and in reviewing food standards. The laboratory has been strengthened with the training unit, microbiology unit, pesticide and residue analysis unit.

To meet the paucity of trained analysts in the country, training programmes for in-service training to chemists working in laboratories of state and local bodies are arranged. An eight week training programme was conducted for analysts during 1980 at the Central Food Technological Research Institute, Mysore. There are about 80 food analysis laboratories in the country under the control of state governments and local bodies.

A food contamination monitoring programme has been started with FAO assistance for surveying three kinds of contaminants, namely, pesticide residues, heavy metals and aflatoxins, occurring in various types of foods.

The Directorate General of Health Services is a liaison office for the National Codex Committee to maintain a close contact with the Codex Alimentarius Committee of FAO/WHO which is involved in formulating standards of food articles at international level.

Water Supply and Sanitation

The National Water Supply and Sanitation Programme was launched in 1954 as part of the health plan to assist the states in their urban and rural water supply and sanitation schemes so as to provide adequate water supply and sanitation facilities in the entire country. A Central Public Health and Environmental Engineering Organisation (CPHEEO) was also set up in 1954 to provide technical advice and guidance to state governments in the preparation and execution of their schemes. The programme and the organisation were transferred to the Union Ministry of Works and Housing in February 1973. By March 1979, 2,108 towns had been provided with water supply benefiting a population of 10.00 crore. Also 217 towns with a population of 4.00 crores (36 per cent of the total urban population) had been covered by partial sewerage system. It is estimated that more than two lakh problem villages remained to be covered with potable water supply as on 1 April, 1980. High priority has been given to cover these rural areas during the Sixth Plan.

FAMILY WELFARE

Family Planning as an official programme was adopted in 1952 as it was recognised that a rapidly growing population would be more a hindrance than a help in raising the standard of living of the people. During the First and Second Five Year Plans (1951-1961), the programme was taken up in a modest way with a clinical approach. The stress was mainly on research in the field of motivation, communication, demography, physiology of reproduction and on the extension of central and state organisations in providing clinical services. The programme was reorganised in the Third Plan after the publication of the 1961 census results which showed a higher growth rate than anticipated. The clinical approach was supplemented by extension approach under which the message, services and supplies of contraceptives were taken to the people. A full-fledged department was created in 1966. During the three Annual Plans (1966-69), the family planning programme, which was described as the 'kingpin' of the Plan,

was made time-bound and target-oriented with vastly increased funds. In the Fourth Plan, the programme was accorded the highest priority. The approach during the Fifth Plan was to increasingly integrate family welfare services with those for health, maternal and child care and nutrition. The family welfare workers would thus be converted into multi-purpose workers who would be able to pay special attention to purveying family welfare motivation and services. In the Sixth Plan the programme has highest priority and continues as a centrally sponsored one. It aims to bring down the net reproduction rate to one by 1996.

A sum of Rs 1,010.00 crores has been provided for this programme during the Sixth Plan as against an expenditure of Rs 14.50 lakhs in the First Plan, Rs 2.16 crores in the Second Plan, Rs 24.86 crores in the Third Plan, Rs 70.46 crores in the three Annual Plans, Rs 284.41 crores in the Fourth Plan and Rs 408.98 crores in The Fifth Plan (1974-78). A sum of Rs 155 crores has been provided for 1981-82.

Implementation Machinery

The programme is implemented through the state governments for which cent per cent central assistance is provided. In rural areas, the programme will be further extended through the Minimum Needs Programme through a network of primary health centres (one per community block) and sub-centres (one for a population of 5,000) as well. The Sixth Plan envisages the establishment of 40,000 additional sub-centres during 1980-85. MHC and Expanded Programme of Immunization are also a part of Family Welfare Programme.

The Central Family Welfare Council advises on family welfare programmes at the national level. A number of central committees, like the Research Co-ordination Committee, have been set up to study the progress of research programmes.

Voluntary organisations and private medical practitioners are also associated to make the maximum use of available resources for optimum results. The programme is implemented through 5,387 rural, 1,753 urban family welfare centres and 49,227 sub-centres. Besides, 5,780 other institutions also render services.

PERFORMANCE

Sterilisation and IUD

Since the inception of the programme 327.3 lakh sterilisations and 85.6 lakh IUD insertions have been done, giving a rate of 48.9 per thousand population for sterilisations and 12.8 for IUD insertions, up to 31 December 1980.

Nirodh

Between April and December, 1980, 9.57 crore pieces of Nirodh were sold under the commercial schemes operated through a network of over 3.8 lakh retail shops by 12 leading consumer goods marketing companies in India.

Under free distribution scheme 9.96 crore pieces of Nirodh, 37,147 jelly/cream tubes and 16,401 foam tablets were distributed during the same period.

Oral Pills

The oral pill programme was extended to all the urban centres including those run by local bodies and voluntary organisations and those

PHCs where the programme could be monitored and patients followed up. Now the pills are being distributed through 4,525 rural and 2,523 urban centres/hospitals in the country.

Impact of the Programme

It is estimated that 22.8 per cent of estimated total of 11.38 crore eligible couples whose wives are in the reproductive age group 15-44 are currently protected by one or another of the approved methods of family welfare (as on 31 December 1980). It is estimated that as a result of work done up to 31 December 1980, 428 lakh births have been averted.

Medical Termination of Pregnancy

The programme of medical termination of pregnancy through well trained doctors in well equipped/approved hospitals is essentially a health care measure. But in a way, it supplements the family welfare programme as it provides for legalised abortion in cases of contraceptive failures also. A good proportion of the acceptors of abortion go in for some form of contraception like sterilization, IUD, etc. Since its inception in April 1972, it has continued to make good progress. During 1979-80, 3,06,878 terminations were done. The number of terminations done from April to December 1980 was 2,38,228. Since the inception of the programme, a total of 18,21,004 terminations have been done. So far 60 senior gynaecologists drawn from medical colleges as well as from district hospitals have been trained abroad under the WHO sponsored programme in the advanced techniques of medical termination of pregnancy and 166 hospitals in the country have been approved to provide training in MTP techniques to doctors drawn from various district hospitals and PHCs. With the assistance of WHO, ICMR has undertaken research in short term sequelae and complication of induced abortion in 16 centres in India. Eleven of these centres will also provide training in advanced technique of MTP and sterilisation to gynaecologists from contiguous states. With these measures, this programme is expected to get a boost further in the coming years.

Maternal and Child Health Programme

This programme is an important and crucial component of the family welfare programme as with better maternal and child health care, the performance is expected to improve. The services under this programme consist of immunisation (DPT) to expectant mothers, pre-school and school children, prophylaxis against nutritional anaemia among mothers and children and against night blindness due to vitamin 'A' deficiency. A sum of Rs 6.16 crore has been provided for the programme during 1980-81.

Post-Partum Programme

This programme, aimed at propagating the message of family welfare among women attending hospitals for delivery and abortion, is now extended to 524 hospitals. The programme was extended, during 1980-81, to 50 sub-district hospitals and it is likely to be extended to 150 sub-district hospitals during 1981-82.

Training

The training programme under the Multipurpose Workers Scheme has already been completed in 208 districts up to 31 March 1980. The training was going on in 144 districts where it was expected to be completed by March 1981.

Retraining of district level medical officers and the 'key trainees' is organised at 7 central training institutions and that of medical officers of PHCB and Block Extension Educators at 46 HFPTCs

(Health and Family Planning training centres). The para-medical staff of the block is trained at the selected PHCs.

Motivation and Education

The family welfare programme in India depends on its voluntary acceptance by the people. To approach 11.38 crore literate and illiterate couples in the reproductive age group, living in urban and remote rural areas, a broad based mass education and motivation programme has been launched. Besides mass media like the Press, the Films, the Radio and the TV, oral and visual communication media like song and drama troupes and inter-personal communication through a network of extension education workers are being used on an extensive scale. Population education is also being introduced in school curricula. Out-of-school-adults are also being educated through the functional literacy classes. Co-operation and assistance of all official and non-official agencies working in the field of development like trade unions, co-operatives, panchayats and other local institutions are also enlisted for promoting the programme. The Mass Mailing Unit of the Department of Family Welfare disseminates information in the form of printed materials (including booklets, folders and journals) to various categories of opinion leaders through direct mail service. The list includes over 10 lakh addresses.

Research and Evaluation

Research activities continued in the field of demography and communication action through 16 Demographic and/or Communication Action Research Centres situated in various states. Similarly biomedical research in the field of reproductive biology and fertility control is being done in the Indian Council of Medical Research, Central Drug Research Institute, All India Institute of Medical Sciences, National Institute of Health and Family Welfare and Central Council of Research in Indigenous Medicines and Homoeopathy. The Coordination Committee on Biomedical Research was reconstituted on 29 January 1976.

Some major international agencies offer assistance to India in the field of health and family welfare. They are WHO, UNICEF, UNFPA and the World Bank. Some other foreign agencies also assist the programme on a bilateral basis.

9 SOCIAL WELFARE

Social welfare activities in the country find their inspiration in the Indian Constitution which postulates the goal of a welfare state. Article 38 of the Constitution enjoins that the State shall strive to promote the welfare of the people by securing and protecting as effectively as it may, a social order in which justice—social, economic and political—shall inform all the Institutions of the national life. They also enjoin the State to ensure that ‘the health and strength of workers, men and women, and the tender age of children are not abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age and strength’, and that ‘childhood and youth are protected against exploitation and against moral and material abandonment.’

The social welfare services in almost three decades of planning have sought to serve the development and rehabilitation needs of the weaker sections of society, especially the physically and socially handicapped and women and children from the vulnerable sections of the community in rural and tribal areas and urban slums.

EXPENDITURE ON WELFARE PROGRAMMES

The expenditure on social welfare programmes since the beginning of the First Plan is given in table 9.1.

TABLE 9.1
EXPENDITURE ON
SOCIAL WELFARE

	(Rs crores)								
	First Plan	Second Plan	Third Plan	1966-69 Annual Plans	Fourth Plan	Fifth Plan	1978-79 Annual Plan	1979-80 Annual Plan	Sixth Plan 1980-85 Outlays
Centre	1.60	8.49	12.84	7.76	65.71	43.52	19.06	17.82	150.00
States	..	4.95 ¹	5.63	3.20	9.36	13.60	9.38	12.23	109.78
Union Territories	..	..	0.93	0.60	1.43	1.72	0.97	0.84	12.19
TOTAL	1.60	13.44	19.40	11.56	76.50	58.84	29.41	30.89	271.97

¹Includes union territories.

SOCIAL WELFARE ADMINISTRATION Department of Social Welfare

India being federal in structure, the responsibility for implementation of welfare schemes rests with both the centre and the state governments. The centre is also responsible for formulating the nation's policy for social welfare services and co-ordinating, guiding, prompting and promoting the implementation of welfare services by the states. Department of Social Welfare was created on 14 June 1964 (upgraded to the level of ministry in 1979), by pooling together different welfare programmes which were hitherto administered by different ministries in the Government of India.

The work of the Union Ministry of Social Welfare is now carried out through three Bureaux (i) nutrition and child development, (ii) social security and social defence and (iii) women welfare and development. The central social welfare board, the national institute of public cooperation and child development and the national institute of social defence assist the ministry in its functions.

Central Social Welfare Board

The central social welfare board (CSWB), was set up in 1953 to promote and accelerate voluntary action, throughout the country. The chairman of the Board is appointed by the Government of India from amongst prominent women social workers. Among its main activities are : survey of the needs of social welfare organisations; evaluation of their programmes; co-ordination of the assistance given by various central ministries and state governments and render financial assistance to voluntary welfare agencies. The Board also promotes the development of voluntary organisations in areas where they do not exist as well as social welfare activities for the welfare of the family, women, children, the handicapped and others.

The main programmes currently implemented by CSWB are condensed courses of education for adult women, socio-economic programmes of women in need of work and wages, creches for children, general grants-in-aid, etc.

Social welfare advisory boards have been set up in almost all the states and union territories. A sizable portion of the financial assistance from CSWB is extended to voluntary institutions through the state boards.

Annual Expenditure

The plan expenditure during 1978-79 and 1979-80 and outlay for 1980-81 under major heads for the central and centrally sponsored programmes is given in table 9.2.

TABLE 9.2
ANNUAL PLAN
EXPENDITURE

Sl. No.	Name of scheme	(Rs lakhs)		
		1978-79 Expenditure	1979-80 Expenditure	1980-81 Budget
1.	Family and child welfare projects	1.00	—	—
2.	Functional literacy for adult women	133.86	174.39	137.00
3.	Condensed courses of education	90.00	100.00	120.00
4.	Socio-economic programmes	150.00	150.00	225.00
5.	Hostels for working women	201.46	150.28	275.00
6.	Expansion and improvement of national institutes for the handicapped	43.84	31.82	100.00
7.	Scholarships, research, training sheltered employment, grant-in-aid to voluntary organisations, IYOP, etc.	155.69	109.06	150.00
8.	Artificial limbs manufacturing corporation	—	—	33.00
9.	National institute of social defence	6.73	3.44	7.00
10.	National Institute of public corporation and child Development	11.97	29.08	29.00
11.	Social work education and training	89.17	82.66	86.00
12.	Planning, research, evaluation and monitoring and innovative action-cum-research projects	13.02	9.52	10.00
13.	Grants-in-aid to voluntary organisations by the central social welfare	268.00	286.50	289.00
14.	Grants-in-aid to all-india voluntary organisations	25.07	29.03	25.00
15.	Creches day care centres for children of working ailing mothers	50.00	79.25	175.00
16.	Education work for prohibition	8.50	12.39	15.00
17.	International year of the child	11.00	10.71	1.00
18.	Services for children in need of care and Protection	250.89	39.99	75.00
19.	Integrated child development services	340.15	438.88	544.00
20.	Welfare of destitute women and children (Training)	26.13	1.50	20.00
21.	Integrated education of the handicapped	11.15	3.62	160.00
22.	Placement of handicapped through special employment exchanges	18.69	5.19	5.00
23.	Others	—	32.27	—
TOTAL		1,906.32	1,781.58	2,581.00

- State Social Welfare Advisory Boards** Social welfare advisory boards have been set up in almost all the states and union territories. They serve as the media for exchange of information between the field and the centre and co-ordinate the welfare activities of the state governments and CSWB to avoid duplication. A major portion of the financial assistance from the CSWB is extended to voluntary institutions through the state boards.
- WELFARE PROGRAMMES** The various programmes of social welfare fall broadly under six heads, namely, programmes for women, programmes for children, composite programmes for women and children, schemes for maladjusted groups, programmes for physically handicapped persons and social legislation.
- WELFARE OF WOMEN**
- Machinery for Women's Welfare and Development** The national machinery set up in India for women's welfare and development consists of (i) national committee on women, (ii) a steering committee of the national committee, (iii) an inter-departmental coordination committee and (iv) women's welfare and development bureau.
- Prohibition of Dowry** Taking and giving of dowry has been declared as violation of government servant's conduct rules for central government employees. States were advised to take similar action. Kerala, Himachal Pradesh, Tamil Nadu and Andhra Pradesh have implemented the advice. Orissa, Bihar, West Bengal, Haryana, Punjab and Himachal Pradesh had amended the dowry prohibition Act 1961 in order to make the existing law more effective. Bihar and Himachal Pradesh have made the offences under the Act cognisable.
- The Ministry has also constituted an Inter-Departmental Co-ordination Committee on Women's Welfare to ensure systematic communication, consultation and coordination among the various ministries and departments. The functions of the Committee at the state level include reviewing the progress in the implementation of various constitutional provisions and special laws intended to safeguard the interests of women, suggesting ways and means of removing defects in implementation, and bringing about coordination among various departmental programmes.
- Functional Literacy for Adult Women** A new scheme of functional literacy for adult women in the age group between 15-45 years was started in 1975-76. The scheme offers non-formal education to cover elements of health and hygiene, food and nutrition, home management and child care, school education and vocational/occupational skills. The scheme is being implemented in 150 integrated child development services project areas.
- Condensed Course of EDUCATION and Vocational Training for Adult Women** The scheme of condensed course of education for adult women was started by the central social welfare board in 1958 for opening new vistas of employment to deserving and needy women and for creating a band of competent trained workers such as primary school teachers, balsevikas, nurses, health visitors, mid-wives and family planning workers.

Under the scheme, women in the age group 18-30, who have had some schooling, are prepared for middle school, matriculation or equivalent examination within two years. From 1975-76, two new components, viz., one year course for failed candidates and vocational

training courses, have been added to the scheme. Since the inception of the scheme in 1958, up to March 1980 the Board had sanctioned grants for 3,901 courses benefiting about 84,000 women.

- Mahila Mandals** Mahila Mandals are women's organisations running welfare programmes in rural areas. The CSWB gives grants up to 75 per cent of their expenditure. During 1979-80, 409 Mahila Mandals were given grants amounting to Rs 48.52 lakhs.
- Working Women's Hostels** To provide accommodation at reasonable rates to working girls in urban areas, CSWB has sponsored the setting up of working women's hostels. Since the inception of the scheme in 1972-73, 196 hostels with a total capacity for inmates had been sanctioned up to March 1979-80. The Board gives grants to voluntary institutions running hostels for working women of lower and middle income groups.
- Border Area Projects** Welfare services in the border areas of the country have been strengthened with the setting up of welfare centres in the border areas of Arunachal Pradesh, Jammu and Kashmir, Lahaul and Kinnaur in Himachal Pradesh, Chamoli in Uttar Pradesh, Kachchh and Banaskantha in Gujarat and Srikananapur and Jaisalmer in Rajasthan. These centres provide maternity services, infant care, craft training and social education for women. There are now 86 such centres in the border areas.
- Socio-economic Programme** This programme of the central social welfare board, started in 1958, aims at providing needy women, destitutes and physically handicapped persons with work and wages to supplement the meagre income of their families. A new component in the form of dairy scheme was added to this programme in 1975-76. Up to March 1980 assistance was given to 2,942 units for generating employment opportunities for about 35,000 women.
- Other Measures** A number of legislative and administrative measures relating to women welfare have also been undertaken. The Equal Remuneration Act was passed in 1976 which provides for : (i) the payment of equal remuneration to men and women workers and (ii) prevention of discrimination on the grounds of sex against women in matters of employment and for matters connected therewith or incidental thereto.
- Several state governments have taken action for amending the provisions relating to dowry by imposing more rigorous penalties and by streamlining the enforcement machinery.
- The Factories (Amendment) Act, 1976 provides for the establishment of a creche where 30 women are employed (including casual labourers or contract labourers) as against one for every 50 so far.
- The Maternity Benefits Act, 1961 was amended in April 1976 to cover women who do not fall within the purview of the Employee's State Insurance Act, 1948.
- By the Marriage Laws Amendment Act, 1976, the Hindu Marriage Act, 1955 and the Special Marriage Act, 1954 have been amended to provide for the right of a girl to repudiate before attaining maturity, her marriage as child, whether the marriage has been consummated or not. Cruelty and desertion have been added as grounds for divorce and mutual consent for divorce has been recognised. The Child Marriage Restraint Act has been amended recently and the age at marriage

of a girl raised from 15 to 18 years and for boys from 18 years to 21 years. The offences under the Act have been made cognizable.

PROGRAMMES FOR CHILDREN

Nutrition Programmes

To meet the widespread nutritional deficiency among children, especially those belonging to the lower economic strata, the Government of India introduced the special nutrition programme in 1970-71 to provide supplementary nutrition to children of 0-6 years of age and expectant and nursing mothers in the tribal areas and urban slums in towns with more than one lakh population. About 70.00 lakh beneficiaries, including over 7.00 lakh expectant and nursing mothers were provided supplementary nutrition under the programme during 1978-79. The programme is functioning in all the states and union territories.

In addition to the special nutrition programme, the Ministry of Social Welfare started another programme in 1970-71 through *balwadis* run by voluntary institutions, under which children between 3 and 6 years were provided supplementary nutrition. About 2.30 lakh children are covered under this programme in over, 6,000 *balwadis*.

World Food Project is operating in India in ten states since the middle of 1976. Under the project, supplementary nutrition is provided to pre-school children below 6 years, pregnant women and nursing mothers from the vulnerable sections of society. The target for the programme in its current phase to cover 20 lakh beneficiaries has been approved.

CARE assistance is made available to 14 states and 2 union territories for about 105 lakh beneficiaries under the mid-day meal programme and about 64 lakh beneficiaries under the supplementary nutrition programme for pre-school children and mothers.

Owing to unprecedented drought in 1979, the Government of India has allocated one lakh tonnes of foodgrains to implement food-for-nutrition programme for the vulnerable sections of the population in 12 states.

Integrated Child Development Services

In the Fifth Plan highest priority had been accorded to child welfare programmes. The most important scheme in this field was the integrated child development services (ICDS) for children in the age group of 0-6 years, nursing and expectant mothers, etc. Under the scheme, a package of services consisting of supplementary nutrition feeding, immunisation, health check-up, referral services, nutrition and health education and non-formal pre-school education was delivered. There are now 200 projects of which 28 are located in urban, 105 in rural and 67 in tribal areas.

A Child Development Project Officer is directly in-charge of each ICDS project. The focal point for delivery of services is an *anganwadi*. The work of *anganwadi* workers is supervised by *mukhyasevkas*. The health infra-structure in the project area is strengthened by one medical officer, lady health visitors and additional auxiliary nurse-cum-mid-wives to increase the number of primary health sub-centres to one for a unit of 5,000 population in rural tribal projects.

Other Services for Children

Providing care and protection to abandoned, neglected, unwanted and destitute children is another important programme implemented by the Ministry of Social Welfare. The need for such a programme has arisen as a result of the break-up of the old family system which provided care and shelter to dependent children. Under the scheme, started in 1974-75, assistance is provided to voluntary organisations through

the state government for residential care as well as foster care of destitute children. During 1979-80, assistance of Rs 890.35 lakhs was given for the benefit of 40,407 children in need of care and protection.

The scheme for giving grants to voluntary organisations for running creches for children in the age group 0-5 years of working and ailing women is now being implemented by the central social welfare board. Only those children whose parents' total monthly income is less than Rs 300 are eligible for admission to the creches. The programme has gained considerable momentum and during 1979-80, there were 1,971 creches benefiting 49,275 children.

Holiday Camps

The scheme of holiday camps for children was started in 1958. The CSWB extends financial assistance to voluntary institutions for organising such camps for children belonging to low income group families. In 1979-80, grants amounting to Rs 35.14 lakhs were sanctioned for 946 camps benefiting 29,568 children.

Foster Care Homes

To provide care for children affected by desertion, divorce, long illness or imprisonment or death of either parent, three foster care homes, one in Madras and two in Bombay, are being run by voluntary institutions. During 1976-77, Rs 85,000 were sanctioned by CSWB to these institutions.

National Institute of Public Cooperation and Child Development

The National Institute of Public Cooperation and Child Development located in Delhi undertakes research, evaluation and training in the field of voluntary action and child development. Its programme of activities covers research on a wide range of problems and training of ICDS and field level functionaries as well as senior personnel in social administration. The Institute has set up a field unit at Gauhati and other at Bangalore.

Training Programmes

The central government has sponsored a number of training programmes for field level functionaries. *Balsevika* training programme was started during 1961-62 to train child welfare workers. At present there are 36 such centres imparting eleven months training in pre-school education, recreation, health, nutrition and social work. By the end of 1979, 10,800 workers had been trained by these centres. In addition, six family and child welfare training centres were established during the Third and Fourth Plan periods to train the field staff of family and child welfare projects. Grants are also being given by the centre to the *Grameen Mahila Sangh* for organising short duration training camps for field workers in the development of leadership and in improved agriculture. To meet the growing needs for social workers, particularly in the voluntary sector, the National Institute of Public Cooperation and Child Development and the National Institute of Social Defence also organise short duration courses and workshops for non-officials.

National Policy for Children

In August 1974, the Government of India adopted a national policy resolution for children. The resolution spells out the various measures to be adopted and the priorities to be assigned in children's programmes. In accordance with the resolution a National Children's Board was set up in December 1974 with Prime Minister as its president. Similar boards have been constituted in all states except Chandigarh.

International Year of the Child 1979 which was declared by the United Nations as the International Year of the Child (IYC) was observed in India with action programmes. The National Children's Board was designated as the National Commission for IYC.

The National Plan of Action for IYC was formulated. It envisaged measures and programmes in the vital sectors of nutrition, health, education, welfare, legislation, publicity and fund-raising. The theme of the plan was "reaching the deprived child", emphasising high priority to the deprived children from the weaker sections of society and poverty stricken groups in backward, rural and tribal areas and urban slums.

Several schemes were launched during the year and the existing ones expanded. A mass immunisation programme was undertaken. A National Children's Fund has been constituted to promote the efforts of voluntary organisations in the field of child welfare. IYC seals were sold to augment the funds of the National Children's Fund. Special awards for outstanding work done in the field of child welfare both for the individual as well as for the organisation have been instituted commencing from 1979. Various informative and promotional measures were taken through the mass media, seminars, workshops, etc., to create awareness and generate interest in child development.

IYC is not viewed as one year programme but as a spring board for vigorous and continued action during the residual part of the century. A perspective plan for child development for the next two decades is being evolved so as to provide guidelines for planners both at the centre and in the states.

MALADJUSTED GROUPS SOCIAL DEFENCE PROGRAMMES In order to curb various forms of personal and social misorganisations, government has taken up special programmes for maladjusted groups and individuals. These programmes known as social defence programmes are organised mainly within the frame work of specific legislations and allied measures. These measures include preventive, correctional and rehabilitative services in various areas of social defence such as, welfare of prisoners, delinquency control, probation, beggary control and social and moral hygiene.

Welfare of Prisoners Under the scheme, welfare officers look after the individual problems of prisoners and assist in solving them in liaison with their families. Creches are established in some prisons for the children of women prisoners.

Juvenile Delinquency Juvenile delinquency is a state subject. Children's Acts of various states provide for necessary machinery such as juvenile courts, child welfare boards, remand/observation homes, special/certified/approved schools for prevention and treatment of juvenile delinquency. The Central Children's, Act, 1960 is applicable to all the union territories. It has also been adopted by most of the states. To plug certain deficiencies in its implementation, the Act was amended in 1978.

Probation Services The Probation of Offenders, Act, 1958 contains a mandatory provision for calling upon the courts to consider a Social Investigation Report from the Probation Officers in respect of youthful offenders under 21 years of age. It also provides for the release of offenders below the

age of 21 years on probation. It is a central legislation which has been adopted by most of the states. There are also some voluntary organisations that grant financial and other assistance to those released on probation such as hostel accommodation and employment assistance.

**Beggary
Prevention**

Many states have passed anti-beggary legislation. In others, Municipal and Police Acts provide for measures against begging. The Government of India is preparing a model legislation for union territories.

**Social and
Moral Hygiene**

The Indian Constitution prohibits traffic in human beings. The Government of India passed in 1956 Suppression of Immoral Traffic in Women and Girls Act. It is a central legislation applicable to the whole of the country and empowers the state governments to make rules for its smooth application. Under the Act, women and girls rescued from brothels are sent to protective or corrective homes. Various states and union territories have set up protective homes, reception centres, short-stay homes and district shelters for women and girls facing moral danger. Experience gained in the implementation of the Act has brought to light certain inadequacies. To remove these inadequacies, the Act has been amended suitably.

**National Institute
of Social Defence**

The central bureau of correctional services, established in 1961, was reconstituted and renamed on 1 January 1975 as the **National Institute of Social Defence**. The Institute has been assigned technical functions with regard to the coordination, standardisation and development of social defence programmes in various areas including those relating to the prevention of alcoholism, gambling, suicide and drug addiction.

To achieve its goals, the Institute undertakes research, collects statistics, promotes training, drafts model legislations and rules, creates public awareness on social defence problems and establishes liaison with universities and concerned agencies. It also advises central and state governments on various aspects of social defence development. The Institute brings out professional publications including its quarterly journal, "Social Defence."

**Welfare of
Physically
Handicapped**

Programmes are being implemented for the education, training and rehabilitation of four categories of handicapped persons, namely, the blind, the deaf, the orthopaedically handicapped and the mentally retarded. Three per cent of group 'C' and 'D' posts are reserved in central services and public sector undertakings for the physically handicapped. From 2 October 1977, the central government allowed holders of motorised vehicles on which the tax had been exempted by the state governments concerned, a concession of 50 per cent in the cost of petrol/diesel used by them subject to certain stipulated ceilings.

Blind

There are 140 schools and training centres for the blind in the country. The National Centre for the Blind, Dehra Dun, provides integrated services. The model school for blind children attached to the Centre is a secondary school. The Centre also has a training centre for the adult blind, a school for partially sighted children, a workshop for the manufacture of Braille appliances, a sheltered workshop and the central Braille press. The national library for the blind, which also forms part of the Centre, circulates Braille literature in the country. The four teachers' training centres at Delhi, Bombay, Calcutta and Madras train 40 to 50 teachers for the blind annually.

- Deaf* The National Centre for the Deaf at Hyderabad has a training centre for the adult deaf and a school for partially deaf children, the only one of its kind in the country. The training centre imparts training in tailoring, sheet metal work, electrical wiremanship, carpentry, fitting, gas welding and photography.
- Orthopaedically Handicapped* A National Institute for the Orthopaedically Handicapped has been set up in Calcutta. The Institute will concentrate on research and training of personnel for the rehabilitation of the orthopaedically handicapped.
- Mentally Retarded* A model school for mentally deficient children is functioning in Delhi for children in the age group 6-15. The school also provides training in a few crafts.
- Integrated Education* The national policy resolution on education suggests that as far as possible handicapped children should be placed in ordinary schools. For this, a scheme has been drawn up and forwarded to various state governments. At present ten states and one union territory are implementing the scheme.
- AIDS AND APPLIANCES** Artificial Limbs Manufacturing Corporation of India, Kanpur, a public sector undertaking under the administrative control of the Union Ministry of Social Welfare manufactures prosthetic and orthotic aids and appliances to meet the requirements of the handicapped people.
A scheme of research on rehabilitation of the handicapped is under operation. Research work on sensory and other aids has been undertaken in the Indian Institute of Technology at Delhi and Madras and the All India Institute of Medical Sciences, New Delhi.
- Other Services* Assistance is given to voluntary organisations serving the handicapped and to cured leprosy patients. The extent of assistance set at 75 per cent has recently been raised to 90 per cent of the estimated expenditure on approved items. In 1979-80, Rs 90.03 lakhs were given to 120 organisations. There were 18 special employment exchanges in the country for the physically handicapped by the end of 1979. They have placed about 20,663 persons in employment.
- WELFARE SERVICES FOR THE AGED** With increasing life expectancy, the number of aged people is increasing. According to the 1971 census, 3.36 per cent of the population was 65 years and over as compared to only 1.98 per cent in 1881.
In the Indian family system, the care of the aged is the responsibility of their children or other close kins. Although this responsibility is generally discharged, force of circumstances sometimes leaves old people without any means of support, specially since only a very small percentage (including employment in government or public sector agencies) is currently covered by pension, gratuity, etc.
Fourteen state governments and two union territories have started schemes of cash assistance to old people who are without any means of support. Homes for the aged and other services to assist the aged in their homes have also been started by both government and voluntary agencies.
- Scholarships* The Union Ministry of Social Welfare awards scholarships to the blind, deaf and orthopaedically handicapped students for general education and for technical and professional training. About 8,900 scholarships

are awarded annually. The implementation of the scheme was decentralised from 1 April 1977 in five states and one union territory. Since 1 April 1978 the scheme has been further decentralised in other ten states and six union territories.

IYDP

As proclaimed by the United Nations, 1981 is being celebrated in India as "International Year of Disabled Persons" with the theme 'full participation and equality' for the disabled persons. A broad frame of population and problem reference has been provided by the United Nations by indicating that roughly 10 per cent of a country's population is limited in body or mind. On this basis India may well have about 6 crore or more people with some physical or mental disability. But this general assessment is not adequate for launching a plan programme of services. To collect requisite information about the size, needs and characteristics of the disabled population, a series of surveys is being launched and several welfare programmes/schemes are proposed to be undertaken during this year.

National Awards

National awards are given every year to outstanding employers of the handicapped and the most efficient handicapped employees by the government and private sector, public sector undertakings, local bodies and corporations, etc. Self employed handicapped have also been included now. 20 efficient physically handicapped employees 2 physically handicapped self employed persons and ten outstanding employers were given awards in 1980.

PROHIBITION

The Constitution (Article 47) enjoins on the State to endeavour to bring about prohibition of the consumption of intoxicating drinks and drugs. The Central Prohibition Committee, constituted to formulate the national policy on prohibition, recommended introduction of total prohibition in a phased manner in four years ending March 1982. The union government has formulated guidelines for implementing the prohibition policy. The implementation of this policy is the responsibility of state governments. Assistance is given by the Union Ministry of Social Welfare to voluntary organisations for educative publicity programme in favour of prohibition.

RESEARCH AND EVALUATION

The Union Ministry of Social Welfare is implementing a scheme for sponsoring of research and evaluation studies which are undertaken by universities, schools of social work, research institutes, etc.

About 150 research projects have been sanctioned on a wide range of subjects in the field of social welfare and social development. Statistical compilations are also brought out at periodic intervals apart from handbooks on different programmes.

SCHEDULED AND BACKWARD CLASSES

The Scheduled Castes (SC) and Scheduled Tribes (ST) have been specified by fifteen Presidential Orders issued under the provisions of Article 341 and 342 of the Constitution. According to the 1971 Census, about 22 per cent of the country's population comprised the Scheduled Castes and the Scheduled Tribes. In addition, some state governments have also specified other categories of people known as the "other backward classes" and the denotified, nomadic and semi-nomadic communities. No precise figure of the population of these categories is available.

While the Constitution has prescribed certain protective measures and safeguards for these classes, the successive five year plans have regarded their progress as a major objective of national policy.

CONSTITUTION SAFEGUARDS

The Constitution prescribes protection and safeguards for the scheduled castes and tribes, and other backward classes either specially or by way of insisting on their general rights as citizens with the object of promoting their educational and economic interests and of removing the social disabilities. The main safeguards are :

- (i) the abolition of 'untouchability' and the forbidding of its practice in any form (art. 17);
- (ii) the promotion of their educational and economic interests and their protection from social injustice and all forms of exploitation (art. 46);
- (iii) the throwing open by law of Hindu religious institutions of a public character to all classes and sections of Hindus (art. 25);
- (iv) the removal of any disability, liability, restriction or condition with regard to access to shops, public restaurants, hotels and places of public entertainment or the use of wells, tanks, bathing ghats, roads and places of public resort maintained wholly or partly out of State funds or dedicated to the use of the general public (art. 15);
- (v) the curtailment by law, in the interests of any scheduled tribe, of the general rights of all citizens to move freely, settle in, and acquire property [art. 19(5)];
- (vi) the forbidding or any denial of admission to educational institutions maintained by the State or receiving aid out of State funds (art. 29);
- (vii) permitting the State to make reservation for the backward classes in public services in case of inadequate representation and requiring the State to consider the claims of the scheduled castes and tribes in the making of appointments to public services (art. 16 and 335);
- (viii) special representation in the Lok Sabha and the state Vidhan Sabhas to scheduled castes and tribes till 25 January 1990 (arts. 330, 332 and 334);
- (ix) the setting up of tribes advisory councils and separate departments in the states and the appointment of a special officer at the centre to promote their welfare and safeguard their interests (arts. 164 and 338 and Fifth Schedule);
- (x) special provision for the administration and control of scheduled and tribal areas (art. 244 and Fifth and Sixth Schedules); and
- (xi) prohibition of traffic in human beings and forced labour (art. 23).

LEGISLATION
AGAINST UN-
TOUCHABILITY

For enlarging the scope and making the Penal Provision more stringent, the Untouchability (Offences) Act 1955 had been comprehensively amended by the Untouchability (Offences) Amendment and Miscellaneous Provisions Act, 1976 which came into force from 19 November 1976. With this amendment, the name of the principal Act has been changed to the Protection of Civil Rights Act, 1955. The Act provides penalties for preventing a person, on the ground of untouchability, from entering a place of public worship and offering prayers or taking water from a sacred tank, well or spring. Penalties are also provided for enforcing any kind of social disability such as denying access to any shop, restaurant, public hospital or educational institution, hotel or any place of public entertainment, or denying the use of any road, river, well, tank, water tap, bathing ghat, cremation ground, sanitary convenience, *dharmshala*, *sarai* or *musafirkhana* or utensils kept in such institutions and hotels and restaurants. The Act prescribes penalties for enforcing occupational, professional or trade disabilities, or disabilities in the matter of enjoyment of any benefit under a charitable trust, in the construction or occupation of any residential premises in any locality or in the observance of any social, religious usage or ceremony.

The Act also lays down penalties for refusal to sell goods or render services to a person on the ground of untouchability, molesting, injuring or annoying a person or organising a boycott of, or taking any part in the ex-communication of a person who has exercised the rights accruing to him as a result of the abolition of untouchability.

Direct or indirect preaching of untouchability or its practice in any form or its justification, whether on historical, philosophical or religious grounds or on the ground of any tradition of the caste system or any other ground is deemed to be an offence under the Act.

Compulsion on the ground of "untouchability" to do any scavenging or sweeping or to remove any carcass or to flay any animal or to remove an umbilical cord or to do any other job of a similar nature, is deemed to be an enforcement of a disability arising out of untouchability and is an offence under the Act.

Offences under the protection of Civil Rights Act, 1955 are cognizable as well as non-compoundable. There is a provision for awarding minimum punishment of both imprisonment and fine. For the first offence, the punishment may vary from imprisonment of one month and fine of Rs 100 to imprisonment of six months and fine of Rs 500. For the second offence, the punishments range from imprisonment of six months and fine of Rs 200 to imprisonment of one year and fine of Rs 500. For the third and subsequent offences, the quantum of punishment may vary from imprisonment of one year and fine of Rs 500 to imprisonment of two years and fine of Rs 1,000. Offences with a minimum term of three months' imprisonment are triable summarily by the courts.

Incitement or abetment of untouchability offence has been treated in the same manner as the commission of the offence. Moreover, a public servant who wilfully neglects the investigation of any offence punishable under the Act, is deemed to have abetted an offence under the Act. The state governments are empowered to impose collective fines on the inhabitants of any areas where such people are involved in or abetting the commission of untouchability offences.

Under the provision of Section 8 of the Representation of the People Act 1951, a person who is convicted of an offence under the Act is disqualified from contesting elections to Parliament and state legislatures for a period of six years commencing from the date of such conviction.

The Protection of Civil Rights Act, 1955 is administered by the state government also from time to time. Under a provision in the Act, the central government also lays, every year, before each house of Parliament an annual report on the working of Section 15A of the Act.

POPULATION

According to the 1971 census, the population of the scheduled castes and scheduled tribes was 8,24,80,251 and 4,11,47,922 respectively. Table 9.3 shows their state-wise distribution.

REPRESENTATION IN LEGISLATURES

Under articles 330 and 332 of the Constitution, seats are reserved for the scheduled castes and scheduled tribes in the Lok Sabha and state Vidhan Sabhas in proportion to their population. This concession was initially for a period of 10 years from the commencement of the Constitution but has been extended, through amendments, up to 25 January 1990. Parliamentary Acts provide for such reservations in the union territories having legislatures. Table 9.4 gives details of their representation in the Lok Sabha and Vidhan Sabhas. There is no reservation of seats in the Rajya Sabha and state Vidhan Parishads.

Following the introduction of Panchayati Raj, safeguards have been provided for proper representation of the members of the scheduled castes and tribes by reserving seats for them in the gram panchayats and other local bodies.

RESERVATION IN THE SERVICES

The manner in which the State carries out its obligation to reserve posts for the scheduled castes and tribes in the public services in case of inadequate representation and to consider their claims consistent with the maintenance of efficiency of administration has been left outside the purview of obligatory consultation with the Public Service Commissions [art. 320(4)].

For the scheduled castes, reservation is 15 per cent of the vacancies for which recruitment is made by open competition on an all-India basis and 16-2/3 per cent of the vacancies to which recruitment is made otherwise. For the scheduled tribes, the reservation is 7½ per cent in both cases. Reservations in direct recruitment to Group 'C' and 'D' posts which normally attract candidates from a locality or region, are fixed in proportion to the population of the scheduled castes and tribes in the respective states and union territories.

TABLE 9.3
POPULATION OF
SCHEDULED CASTES
AND TRIBES
(1971 CENSUS)

	Scheduled castes	Scheduled tribes
INDIA	8,24,80,251	4,11,47,922
<i>States</i>		
Andhra Pradesh	58,16,019	22,26,086
Assam	9,12,557	16,06,648
Bihar	83,85,572	49,32,771

Total No. of emplo- yees	Scheduled castes	Scheduled tribes
Gujarat	18,90,011	37,56,700
Haryana	18,95,933	—
Himachal Pradesh	8,07,608	1,41,647
Jammu and Kashmir	3,81,277	—
Karnataka	42,77,161	2,62,070
Kerala	20,01,549	1,93,132
Madhya Pradesh	57,51,467	98,14,606
Maharashtra	31,77,181	38,40,658
Manipur	16,376	3,34,466
Meghalaya	3,887	8,14,230
Nagaland	—	4,57,602
Orissa	33,07,300	50,75,491
Punjab	33,48,217	—
Rajasthan	42,16,266	31,35,392
Sikkim	9,502	51,643
Tamil Nadu	73,37,876	4,50,473
Tripura	1,92,860	4,50,544
Uttar Pradesh	1,90,95,413	1,98,565
West Bengal	89,00,260	26,02,673
<i>Union Territories</i>		
Andaman and Nicobar Islands	—	18,179
Arunachal Pradesh	339	3,69,408
Chandigarh	29,073	—
Dadra and Nagar Haveli	1,332	64,445
Delhi	6,35,698	—
Goa, Daman and Diu	16,514	7,654
Lakshadweep	—	29,540
Mizoram	82	3,13,299
Pondicherry	72,921	—

Reservation is also made at 15 per cent of the vacancies for the scheduled castes and $7\frac{1}{2}$ per cent for the scheduled tribes in promotions on the results of the competitive examinations limited to departmental candidates in Group B, C and D and in promotions by selection in Groups B, C and D and to the lowest rung of Group A in grades or services to which direct recruitment, if any, does not exceed $66\frac{2}{3}$ per cent. Reservation has also been provided for scheduled castes and scheduled tribes in promotion on the basis of seniority subject to fitness in Groups A, B, C and D posts in grades or services to which direct recruitment, if any, does not exceed $66\frac{2}{3}$ per cent.

In promotions by selection within Group 'A' to posts carrying an ultimate salary of Rs. 2,250 p.m. or less, the scheduled castes and tribes officers, who are senior enough in the zone of consideration for promotion and are within the number of vacancies for which the select list has to be drawn, are included in that list provided they are not considered unfit for promotion.

TABLE 9.4
ALLOTMENT OF
SEATS IN
LEGISLATURES

State/Union territory	Lok Sabha			Vidhan Sabha		
	Total number of seats	Seats reserved for scheduled castes	Seats reserved for scheduled tribes	Total number of seats	Seats reserved for scheduled castes	Seats reserved for scheduled tribes
<i>States</i>						
Andhra Pradesh	42	6	2	294	39	15
Assam	14	1	2	126	8	16 ¹
Bihar	54	8	5	324	48	28
Gujarat	26	2	4	182	13	26
Haryana	10	2	—	90	17	—
Himachal Pradesh	4	1	—	68	16	3
Jammu and Kashmir	6	—	—	76 ²	6	—
Karnataka	28	4	—	224	33	2
Kerala	20	2	—	140	13	1
Madhya Pradesh	40	6	9	320	44	75
Maharashtra	48	3	4	288	18	22
Manipur	2	—	1	60	1	19
Meghalaya ³	2	—	—	60	—	—
Nagaland ³	1	—	—	60	—	—
Orissa	21	3	5	147	22	34
Punjab	13	3	—	117	29	—
Rajasthan	25	4	3	200	33	24
Sikkim	1	—	—	32	2	—
Tamil Nadu	39	7	—	234	42	3
Tripura	2	—	1	60	1	17
Uttar Pradesh	85	18	—	425	92	1
West Bengal	42	8	2	294	59	17
<i>Union Territories</i>						
Andaman and Nicobar Islands	1	—	—	—	—	—
Arunachal Pradesh ³	2	—	—	30	—	—
Chandigarh	1	—	—	—	—	—
Dadra and Nagar Haveli	1	—	1	—	—	—
Delhi	7	1	—	56 ⁴	9	—
Goa, Daman and Diu	2	—	—	30	1	—
Lakshadweep	1	—	1	—	—	—
Mizoram ³	1	—	—	30	—	—
Pondicherry	1	—	—	30	5	—
Total	542	79	40	3,997	557	303

¹Four seats are reserved for two autonomous districts (North Cachar Hills and Mikir Hills)

²Excluding 24 seats in the territory held by Pakistan.

³No reservation has been made. ⁴Metropolitan Council.

To facilitate their adequate representation, concessions such as, (i) relaxation in age limit, (ii) relaxation in the standard of suitability, (iii) selection, provided they are not found unfit for the posts, (iv) relaxation of the qualification regarding 'experience' in the case of candidates of the scheduled castes and scheduled tribes, wherever necessary and (v) inclusion of scientific and technical posts up to the lowest grade of Group A required for research, in the scheme of reservations, have been provided for. Simultaneously with notification to employment exchanges or advertisements in newspapers, vacancies reserved for scheduled castes and scheduled tribes in Groups C and D (Class III and IV) posts are announced over the stations of All India Radio located in areas having concentration of scheduled castes and scheduled tribe population. Vacancies filled through the union public service commission otherwise than through examination, are advertised on the first occasion as exclusively reserved for scheduled castes/

scheduled tribes and are advertised a second time, if necessarily, when other community candidates are also considered, if no scheduled castes/tribe candidates still become available. Reservations for scheduled castes and scheduled tribes (including vacancies 'carried forward') is generally subject to the ceiling of 50 per cent of the total number of vacancies. This was based on an earlier judgement of the Supreme Court. However, in the light of certain observations made by the Supreme Court in another case, on the rule of 'carry forward' it has now been provided in the orders issued on 27 December 1977 that wherever there is 'carry forward' of unfilled reserved vacancies, there should be no objection to going beyond the limit of 50 per cent of the total vacancies in a year by way of reservation for scheduled castes and scheduled tribes, provided the overall position of representation of scheduled castes and scheduled tribes in the particular grade or service is found to be not adequate. The scheme of reservations is also being followed by the public sector undertakings. The voluntary agencies, which are in receipt of substantial grants-in-aid from the government, are also required, as a condition, to adopt certain specific features of the reservation scheme in their establishments.

To give effect to the reservations, model rosters of 40 points each have been prescribed for recruitment by open competition and otherwise on an all-India basis and 100 point roster for recruitment made on local and regional basis. If the vacancies in a service or cadre are too few for the purpose, all corresponding posts are grouped together in direct recruitment. Annual statements are required to be submitted by the recruiting authorities for scrutiny by the government. For ensuring implementation of the special representation orders, liaison officers have been appointed in different ministries of the union government.

State governments have also framed rules for the reservation of posts for these classes and taken steps to increase their representation in the state services. 25 per cent of the vacancies in the peons cadre have been reserved for being filled in by transfer from sweepers *farashes*, *chowkidars*, etc., who have put in a minimum of five years service and who may not be possessing the qualifications prescribed for direct recruitment to the post but who may possess elementary literacy and give proof of ability to read either English or Hindi or regional language.

The representation of scheduled castes and scheduled tribes in central government services as on 1 January 1979.

TABLE 9.5
SC/ST
REPRESENTATION
IN CENTRAL
GOVERNMENT

Group (class)	Total No. of employees	Scheduled Castes	Percentage	Scheduled Tribes	Percentage
1	2	3	4	5	6
A (Class I)	46,434	2,204	4.75	435	0.94
B (Class II)	56,287	4,150	7.37	579	1.03
C (Class III)	17,18,576	2,15,762	12.55	53,460	3.11
D (Class IV) (excluding sweepers)	12,71,254	2,45,596	19.32	65,975	5.19
TOTAL (excluding Sweepers)	30,92,551	4,67,712	15.12	1,20,449	3.89

All India Services (as 1 January 1980)	1	2	3	4	5	6
	I.A.S.	3,898	381	9.8	201	5.2
	I.P.S.	2,189	210	9.6	75	3.4

ADMINISTRATION OF SCHEDULED AND TRIBAL AREAS Some areas have been 'scheduled' in the states of Andhra Pradesh, Bihar, Gujarat, Himachal Pradesh, Madhya Pradesh, Maharashtra, Orissa and Rajasthan under article 244 and the Fifth Schedule to the Constitution. Governors of the respective states submit a report annually to the President on the administration of the 'scheduled' areas in their states.

The tribal areas in the states of Assam and Meghalaya and the union territory of Mizoram are administered subject to the provisions of the Sixth Schedule to the Constitution. Under the Schedule, they are divided into autonomous districts. There are eight such districts namely, North Cachar Hills and Mikir Hills districts in Assam, United Khasi-Jaintia Hills, Jowai and Garo Hills districts in Meghalaya and Chakma, Lakher and Pawi districts in Mizoram. Each autonomous district has a district council consisting of not more than 30 members of whom not more than four can be nominated and the rest are to be elected on the basis of adult suffrage. The councils are vested with certain administrative, legislative and judicial powers.

WELFARE AND ADVISORY AGENCIES The union ministry of Home Affairs is responsible for the formulation and implementation of schemes for the welfare of the scheduled castes and scheduled tribes and other backward classes and maintains liaison with the states.

A commission for the scheduled castes and scheduled tribes consisting of a chairman and four members, including the special officer appointed under Article 338 of the Constitution known as the Commissioner for Scheduled Castes and Scheduled Tribes, was set up in August 1978. The commission is to investigate all matters relating to constitutional safeguards, reservation in public services, to study the implementation of the Protection of Civil Rights Act 1955, with particular reference to the objective of removal of untouchability and invidious discrimination arising therefrom, and to ascertain the socio-economic and other relevant circumstances responsible for the commission of offences against persons belonging to scheduled castes and tribes with a view to recommend appropriate remedial measures.

Parliamentary Committees The Government of India set up three parliamentary committees, the first in 1968, the second in 1971 and the third in 1973, to examine the implementation of the Constitutional safeguards for the welfare of the scheduled castes and scheduled tribes. The committee has since been constituted as a standing committee of Parliament, the tenure of the members being one year. This committee consists of thirty members, twenty from the Lok Sabha and ten from Rajya Sabha.

Welfare Departments in States The state governments and union territory administrations have separate departments to look after the welfare of the scheduled castes and scheduled tribes and other backward classes. The administrative set-up varies from state to state. In Bihar, Madhya Pradesh and Orissa, separate ministers have been appointed to look after tribal

welfare as prescribed in article 164 of the Constitution. Some other states have set up committees of members of state legislatures on the pattern of the parliamentary committee at the centre.

Voluntary Organisations

A number of voluntary organisations also promote the welfare of the scheduled castes and scheduled tribes. Important organisations of all-India character are : Harijan Sewak Sangh, Delhi; Bharatiya Depressed Class League, New Delhi; Iswar Saran Ashram, Allahabad; Indian Red Cross Society, New Delhi; Hind Sweepers Sewak Sangh, New Delhi and Ramakrishna Mission, Narendrapur, West Bengal; Bharatiya Adimajati Sewak Sangh, New Delhi; Andhra Rashtra Adimajati Sewak Sangh, Nellore; Ramakrishna Mission, Cherrapunji, Ranchi, Puri, Silchar, and Shillong; Thakkar Bapa Ashram, Nima-khandi (Orissa) and the Servants of India Society, Pune.

The Government of India provides grants to non-official voluntary organisations for specific schemes for the welfare of backward classes. During 1979-80 a provision of Rs 1.25 lakhs was earmarked for these organisations.

WELFARE SCHEMES Expenditure during the Plans

The welfare of scheduled castes and scheduled tribes is given special attention by both the central and state governments. Special programmes for their welfare have been undertaken in the successive five year plans and the size of investment on these special programmes has been increasing from plan to plan as shown in table 9.6 :

TABLE 9.6
EXPENDITURE
DURING THE
PLANS

	(Rs crores)	
	Period	Expenditure
First	1951-56	30.04
Second	1956-61	79.41
Third	1961-66	100.40
Annual Plans	1966-69	68.50
Fourth	1969-74	172.70
Fifth Plan (outlay)	1974-78	288.88
Sixth Plan (outlay)	1980-85	240.00
(excluding special central assistance of Rs. 550.00 crores for Scheduled Castes and Rs 470.00 crores for Scheduled Tribes).		
Special central assistance for sub-plans for tribal areas		120.00
Special central assistance to special component plans for the development of scheduled castes.	1980-85	600.00

In addition, state governments have also been spending a sizable amount from their non-plan budgets on the welfare of these classes.

New Strategy

In the Fifth Plan, a new strategy was adopted for the uplift of the scheduled castes and scheduled tribes. Greater emphasis was placed on the role of the general sector for providing a major thrust to the development of backward classes. Programmes in the backward classes sector were of a catalytic nature and supplemental to the general sector programmes.

The main instruments/mechanism in the strategy for the development of the scheduled castes are :—

(a) The special component plans of the states and central minis-

tries.

- (b) The special central assistance to be special component plans for the scheduled castes of the states; and
- (c) scheduled castes development corporations in the states.

There is a clear nexus between the economic plight of the scheduled castes and the atrocities and social disabilities to which they are subjected. Obviously, a permanent solution of the situation of the scheduled castes must be based on their rapid economic development.

Therefore, an important objective is to enable, at least the 50 per cent of the scheduled castes families in the country to cross the poverty line in Sixth Plan period through comprehensive and integrated family oriented programme of economic development.

Special component plans for scheduled castes :

It envisages identification of schemes under general sectors of development which could be of benefit to the scheduled castes, quantification of funds from all divisible programmes under each sector and determination of specific target as to the number of families which are to be benefited from these programmes.

Apart from economic development, the provision of basic amenities like drinking water, link road, street lighting, housing, access to education to the scheduled castes is also to be provided for in the special component plans. All states/union territories with substantial population of Scheduled Castes have formulated Special Component Plans.

Special central assistance to the special component plans for the scheduled castes :

The special central assistance is an additive to the state plan and programmes for scheduled castes; it is for the totality of states efforts for the economic development of the scheduled castes. This was commenced in 1980-81 and is expected to stimulate the States to improve their special component plans. An outlay of Rs 600.00 crores has been provided during the Sixth Plan (1980-85).

Scheduled castes development corporations

States with a large population of scheduled castes have set up scheduled castes development corporations; which have branches/subsidiaries at the district level. The corporation is intended to perform the role of catalyst. It will organise assistance to scheduled castes families for the provision of income generating assets.

Many states have set up scheduled castes development corporations for giving necessary support for the economic development of the scheduled castes without assuming direct operational responsibilities. The specific problems of the scheduled castes, which have been largely bypassed by the general sector programmes, are expected to be tackled effectively in this way.

**Tribal
Development**

In the Fifth Plan a new strategy for tribal development was evolved. According to the strategy areas having 50 or more per cent of tribal concentration were delineated and tribal sub-plans prepared in 18 states and union territories namely, Andhra Pradesh, Assam, Bihar, Gujarat, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Orissa, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal, Andaman and Nicobar Islands and Goa, Daman and Diu. The states and union territories with predominant tribal population, namely, Arunachal Pradesh, Meghalaya, Mizoram, Nagaland and Lakshadweep and Dadra and Nagar Haveli were not

included in the tribal sub-plan approach as their state plans are, in fact, plans for the development of the tribal people.

The broad objectives of the tribal sub-plan are (i) to narrow the gap between the levels of development of tribal areas and other areas; and (ii) to improve the quality of life of the tribal communities.

In order to achieve these objectives, elimination of all forms of exploitation of tribals particularly in land, money-lending, malpractices in the exchange of agricultural and forest produce was given high priority. The tribal sub-plans envisaged total physical and financial efforts for integrated development of the tribal areas. The investments in the sub-plan areas flow from state plan, central outlays from central ministries and departments, institutional finance and special central assistance. During the Fifth Five Year Plan (1974-1978) the outlay under special central assistance was Rs 120.00 crores. During the Sixth Plan 1980-85, the outlay for special central assistance has been kept at Rs 600 crores.

The tribal sub-plan areas in the 18 states and union territories are grouped into 180 Integrated Tribal Development Projects as operational units. During the Sixth Plan, tribal majority pockets which have a total population of 10,000 and 50 per cent or more of tribal population are also to be taken up under the Modified Area Development Approach as a part of the tribal sub-plan strategy. The concept of tribal sub-plan itself has been kept flexible and has been adopted to the local situation. Programmes undertaken include, agriculture and allied sectors, irrigation, marketing and cooperation, education, etc. The most backward groups among the tribal primitive tribes are given special attention by preparing separate plans for them.

Plan Programmes

The Plan programmes for the welfare of backward classes fall into three main groups : centrally-operated, centrally-sponsored and state sector. Important schemes being implemented under these categories are briefly described below.

Central Schemes Training and Coaching Centres

With a view to helping the scheduled castes and scheduled tribes to secure employment, two schemes, namely, pre-examination training centres and coaching-cum-guidance centres, have been started. Under the first scheme, there are seven centres located at Allahabad, Delhi (through a private coaching centre), Jaipur, Madras, Patiala, Hyderabad and Shillong which impart coaching to scheduled castes and scheduled tribes for all-India services examinations conducted by the union public service commission. Centres for imparting training to candidates for state services examinations have also been set up in the states of Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Orissa, Uttar Pradesh, West Bengal and union territory of Delhi. Two centres for imparting coaching for engineering service examinations have also been set up at Allahabad and Tiruchirapalli.

Four coaching-cum-guidance centres, one each at the employment exchanges in Delhi, Kanpur, Jabalpur and Madras have been set up to conduct courses of 'confidence building and interview techniques' for the scheduled caste and scheduled tribe applicants on the live registers of the concerned employment exchanges for Group "C" posts.

Post-Matric Scholarships

Post-matric scholarships to scheduled castes and tribes are awarded subject to a limit on their guardian's income. The rates of mainte-

nance allowance for medical and engineering degree student hostellers have been increased by Rs 60 per month from January 1978. Book banks have also been started from the academic year 1978-79 for the same category of students.

*Girls Hostels
for the Scheduled
Castes and Tribes*

Under the scheme, financial assistance is given to state and union territory governments for the construction of new hostels and to expand existing ones at any place where the facilities for girls belonging to these classes are inadequate. A sum of Rs 1.96 crore was spent on the scheme during the Fourth Plan. An amount of Rs 3.77 crore was allocated during the Fifth Plan. A provision of Rs 1.45 crore had been made for 1980-81.

*Tribal Research
Institutes*

There are at present 11 Tribal Research Institutes in the country. To co-ordinate their activities, a 30-member Central Research Advisory Council has been set up. The Council provides guidance on policy formulation and serves as a clearing house for the Institutes, central and state governments and other research organisations connected with tribal problems.

*Overseas
Scholarships*

Scholarships to deserving scheduled castes and scheduled tribes students for studies in foreign countries are being awarded by the union government since 1955. The number of such scholarships every year is 10 for scheduled castes, six for scheduled tribes, one for denotified nomadic and semi-nomadic tribes and three for other backward classes and one neo-Buddhist. Tourist class air passage is provided to students who receive foreign scholarships from other sources without travel grants.

*State Sector
Schemes*

The state sector programme for which central assistance is given in the shape of block grants and loans can be divided into three main groups, namely, education, economic uplift and health, housing and other schemes. The particulars of the schemes are :

Education

- (i) Pre-matric scholarships and stipends
- (ii) Exemption from tuition and examination fees
- (iii) Provision of educational equipments
- (iv) Provision of mid-day meals
- (v) Setting up of Ashram schools (basic type residential schools)
- (vi) Grants for the construction of school and hostel buildings

*Economic
Development*

- (i) Provision of land and irrigation
- (ii) Supply of bullocks, agricultural implements, seeds and manure
- (iii) Development of cottage industries
- (iv) Development of communications
- (v) Co-operation
- (vi) Colonisation of shifting cultivators
- (vii) Supply of poultry, sheep, pigs and goats

*Health, Housing
and other Schemes*

- (i) Medical facilities
- (ii) Drinking water supply
- (iii) Provision of houses and house-sites
- (iv) Provision of legal aid
- (v) Grants to non-official agencies working at state level.

RELIEF AND REHABILITATION

Resettlement
of Displaced
Persons from
Chhamb

About 3,900 families who had been displaced from Chhamb-Niabat in 1971 as a result of Indo-Pak conflict, and staying in the camps at Kishanpur-Manwal, had all been moved to resettlement sites by 30 September 1979. The work of resettling the displaced persons on land or in business is in progress.

Resettlement
of Displaced
Persons
crossed over to
India during
1971 conflict

Out of large number of persons who had crossed over from Pakistan to Rajasthan and Gujarat in 1971 in the wake of Indo-Pak conflict, about 53,000 (45,000 in Rajasthan and 8,000 in Gujarat) were staying in relief camps and granted relief assistance by the government. There was no prospect of return of these displaced persons to Pakistan and hence it was decided by the Government of India to rehabilitate them on a permanent basis with grant of Indian citizenship. For the settlement of 45,000 displaced persons in Rajasthan, schemes have been sanctioned at an estimated cost of Rs 20.10 crores on agriculture-based occupations. Another scheme has been sanctioned at an estimated cost of Rs 1.23 crores for the resettlement of 8,000 displaced persons in Gujarat on agriculture. So far about 4,300 families have been settled in Rajasthan and 1,600 families in Gujarat.

Resettlement
of Migrants
from Former
East Pakistan

Out of about 78,000 families of new migrants from former East Pakistan who sought relief and rehabilitation assistance, 61,666 families have already been settled on land or in small trade or through employment in Dandakaranya Project and other States. Out of these about 3,700 families were settled during 1980-81. At present there are only about 2,400 families awaiting settlement out of which about 2,000 families are proposed to be settled in Dandakaranya Project during 1981-82.

The families settled on land are provided irrigation facilities, wherever feasible by constructing tanks, deep borewells, dams etc. In Dandakaranya Project three major irrigation schemes have been undertaken. Two projects are under execution by the Dandakaranya Project itself—one (Paralkot Dam Project) culturable command area—24,000 acres) is expected to be completed by March, 1981 while the second (Satiguda Dam) (Culturable Command area—28,000 acres) is expected to be completed by June 1983. This Project is already providing water for irrigation. The third Project, namely, Potteru Irrigation Project, though being executed by the state government, is being financed by the central government. It would provide irrigation to 1,50,000 acres of land, and is estimated to cost Rs 48.86 crores.

Repatriates
from Sri Lanka

Under the Indo-Sri Lanka Agreements of 1964 and 1974 the Government of India agreed to grant Indian citizenship and repatriate six lakh persons of Indian origin together with the natural increase in that number over a period of 17 years. Up to December 1980 about 3.49 lakh persons have arrived in India from Sri Lanka. Their resettlement has been confined to four southern states. Nearly 90 per cent repatriates are from plantations. Priority in their resettlement is being accorded to schemes relating to plantations and agriculture. In view of the growing magnitude of the problem, a national strategy in various development schemes of both the centre and states is being evolved. Efforts are being made in consultation with state governments and central undertakings for enlargement of employment scope under

various schemes. The Repatriates' cooperative finance and development bank makes available finance for economic programmes of production, trade and business undertaken by the repatriates.

**Prime Minister's
National
Relief Fund**

The Prime Minister's National Relief Fund was started in 1947. Up to the end of December 1980 public contributions to the fund amounted to about Rs 43.11 crore. Over Rs 22.81 crore were utilised in providing relief to people affected by natural calamities such as earthquakes, floods, cyclones, droughts, famines and fire. Relief was also given in the early stages to displaced persons from Pakistan.

The terms mass communication stands for dissemination of information, ideas and entertainment by the use of communication media. The media include those which use modern means of communication such as radio and television, film, the press, publications and advertising. In fact they co-exist with important traditional media such as folk dance, drama and puppetry. In India, the Ministry of Information and Broadcasting has a large set-up of mass communication, with the regional and branch offices as well as mobile units, spread all over the country.

RADIO

Radio broadcasts started in India in 1927 with two privately-owned transmitters at Bombay and Calcutta. The Government of India took them over in 1930 and started operating them under the name of Indian Broadcasting Service. In 1936, the name of the service was changed to All India Radio (AIR)—since 1957, it is known as Akashvani—and it was made a separate department. AIR is now the biggest media organisation of the Ministry of Information and Broadcasting and its programmes are received by over 2.00 crore radio receiver sets in India. It is serving as an effective medium not only to inform and educate people but also to provide healthy entertainment. It is also helping to create a climate of opinion in which social change can take place and people could be involved in the process.

Broadcasting Network

All India Radio's network consisted of six radio stations at the time of Independence in 1947. Now there are 85 stations including two Vividh Bharati/commercial centres, one at Chandigarh and the other at Kanpur. In addition, there are two auxiliary studio centres at Bhubaneshwar and Santiniketan. These cover all the important cultural and linguistic regions of the country. AIR's 'home service' programmes are transmitted for 3.91 lakh hours every year, excluding 1.76 lakh hours of Vividh Bharati programmes. The programmes which are beamed from 160 transmitters, of which 125 are medium wave, cover 77.7 per cent of the geographical area and 89.40 per cent of the population of the country. In addition, there are also 'external service' transmissions, which present programmes in 17 foreign languages and eight Indian languages for about 56 hours daily to present India's viewpoint on important issues to listeners abroad.

Music

Programmes of music are broadcast from all stations of AIR and consist of classical, light classical, light, folk, tribal and film music. A number of stations also broadcast western music. On an average around 40 per cent of the total broadcasting time is devoted to music. Classical music which was largely a preserve of some 'gharanas' and princely courts in the pre-broadcasting period, has now become popular through AIR programmes. A lot of interest has been created in forms and styles of India's ancient musical traditions.

Classical music programmes include a weekly national programme of music (started in 1952) which presents to a nation-wide audience the leading exponents of both Hindustani and Karnatak systems of

music. A festival of music, known as Radio Sangeet Sammelan, is also organised every year. The recording of these concerts are broadcast on AIR network. The Sammelan is preceded by a music competition with the objective of discovering new talent from among musicians in the 16-24 age group. In all 20 concerts were held during the Radio Sangeet Sammelan 1980. In April 1974, a programme of classical light music by young musicians was started. It consists of concerts in Hindustani music which are broadcast from Delhi every Tuesday and are relayed by other stations of northern India, while concerts of Karnatak music are broadcast from Madras every Friday and are relayed by other stations of southern India. The aim of this programme is to discover and encourage young talent. A national programme of regional music, which brings to the listeners the rich tradition of folk and light music of the various regions of the country, was started in January 1973.

The national orchestra, known as Vadya Vrinda, consisting of both Hindustani and Karnatak instrumentalists was started in 1952 at the Delhi station, and a sizeable repertoire of compositions based on traditional ragas and folk tunes has been built up and more compositions are added to it every year. The experiment has proved beyond doubt that orchestration of Indian music has interesting possibilities. To enlarge the horizon, another orchestral unit devoted exclusively for Karnatak style ragas has been set up at Madras station.

In order to revive community singing and to inculcate a sense of integration among the masses, choral groups have been set up at 13 AIR stations for producing choral songs on patriotic and national integration themes. These songs, intended to promote national integration are regularly broadcast from all stations of AIR. Apart from these, light music units located at various AIR stations produce high quality light music songs for broadcast.

Western music is broadcast by a number of AIR stations and the transcription and programme exchange unit brings to the Indian listeners excerpts from the performing arts from many parts of the world.

Plays and Features

Each station broadcasts at least two plays every week. Besides original plays, radio adaptation of outstanding stage plays, novels and short stories are also broadcast. Outstanding plays from Indian languages are broadcast in the national programme of plays, started in 1956. Since its inception, 326 plays have been featured in the programme. A series of monthly chain-plays is also broadcast. Under this, 12 model-plays are produced in a year and circulated amongst major stations. In addition, humorous plays/skits are also broadcast on the entire network of Vividh Bharati.

The national programme of features, started in 1956, focusses attention on matters of national importance or interest—in the political, economic, social or cultural spheres. The original script of these may be in English or Hindi, but is invariably translated into regional languages and is broadcast from all the regional stations.

News and Current Affairs

The News Services Division of AIR attempts comprehensive and speedy coverage of news and views through its news bulletins, commentaries and discussions on current affairs. Besides noticing major trends in political, economic, social, cultural and scientific fields, it gives adequate attention to parliamentary proceedings, rural development and sports

activities. News is broadcast daily through 250 bulletins. Of these, 71 bulletins are beamed in the 'home service' from Delhi in 19 Indian languages and relayed by other AIR stations; 116 bulletins in 23 languages and 33 tribal dialects are broadcast from regional stations and 63 bulletins in 24 languages are beamed to listeners abroad. The regional bulletins were introduced in April 1953. In addition, specialised news bulletins carrying world news, sports news and state and development news and slow speed bulletins in English, Hindi and Urdu are also broadcast. A weekly news bulletin of "human-interest stories" in Hindi and other Indian languages and a daily press round-up in English and Hindi were started in 1977. A special bulletin for persons going on Haj pilgrimage is also broadcast.

When Parliament is in session, daily commentaries in English as well as in Hindi review the day's proceedings in the Houses. Weekly commentaries, in English and in Hindi, of Parliamentary proceedings were introduced in 1977. Daily and weekly reviews of State Legislatures are broadcast from state capitals in the languages concerned. Commentaries by specialists in various fields and scripts from AIR's correspondents are broadcast in English, Hindi and Urdu in the programmes called 'Spotlight', 'Samayiki' and 'Tabsara' respectively. In the 'current affairs' programme every Sunday, specialists take up live issues for in-depth discussion. Eye-witness accounts, interviews with important persons and reactions of the common man to the happenings around him are presented through radio newsreels in both English and Hindi.

A major part of the news broadcast by AIR comes from its own correspondents. AIR has a crop of 99 full time correspondents and 243 part time correspondents in India and abroad. The news broadcasts from AIR cover over 34 hours daily.

External Services The external services broadcasts aim to project a true and objective image of the country to listeners abroad and to explain the country's point of view on matters of national and international importance. This is done through daily commentary, press review and news bulletins. The news bulletins are broadcast in all the language services, and the commentary and press review in most of them. These broadcasts also try to acquaint foreign listeners with the working of the democratic system in India and to stimulate interest abroad in the rich heritage of our art, culture and traditions. The programmes highlight the progress that is being achieved in the industrial, economic and social fields. This is being done in 25 languages—17 foreign and 8 Indian—for over 56 hours daily reaching listeners in the widely scattered areas of the world.

**Vividh Bharati
and Commercial
Service**

Popular entertainment programme, known as Vividh Bharati, is broadcast from 31 centres, including two short wave transmitters at Bombay and Madras, for a total duration of 12 hours and 45 minutes on weekdays and 13 hours and 15 minutes on Sundays and holidays. Film music, humorous skits, short plays and features are presented in these programmes.

Commercial broadcasting on the radio introduced on 1 November 1967 from Bombay-Nagpur-Pune, on an experimental basis, is at present carried by 28 centres. Advertisements are accepted in any language

as tape-recorded 'spots' of 7,15,30 and 60 seconds duration. Sponsored programmes were introduced in May 1970. In 1980-81, the commercial service earned a gross revenue of Rs 12 crores.

Programmes for Special Audiences

The programmes for special audiences and occasions include those for the Armed Forces, women and children, the youth, students, rural and tribal people and industrial workers. Fourteen stations broadcast daily programmes for the Armed Forces, while 52 the stations present programmes twice or thrice a week in regional languages for women with the objective of providing entertainment and imparting information on household topics.

Family welfare programmes are planned and produced by 36 family welfare units at various stations of AIR. Almost all the stations broadcast family welfare and health programmes in a general way. These programmes are integrated with the general programmes as well as those meant for special audience like rural, women, youth and industrial workers.

Almost all AIR stations broadcast programmes specially for rural listeners for about 30 to 75 minutes every day. In addition, a daily programme on hard-core agriculture is broadcast for 45 to 55 minutes from 61 farm and home units located in different stations. AIR stations also broadcast weather bulletins everyday for the farming community. Twenty-six stations broadcast a special programme called the 'Farm School on the Air' where instructions and guidance on farming is provided to listeners.

Programmes consisting of both music and spoken word are put out in more than 100 tribal dialects for the Adivasis from various stations.

Special occasions like the Republic Day, Independence Day, visits of foreign dignitaries or the visits of Indian dignitaries abroad and anniversaries are extensively noticed by presenting special programmes on the national hook-up of AIR.

'Yuva Vani', Sports and School Broadcasts

Programmes for the youth in Yuva Vani are broadcast from 22 stations of AIR. This service provides a forum to the youth between the ages of 15 and 30 years, to present their viewpoint by participating in a wide range of programmes—talks, discussions, interviews, plays, features and music. A youth news bulletin is also broadcast by the youth themselves. In addition, various AIR stations broadcast programmes of varying duration and frequency in different languages for the youth.

For students in school, most of the AIR stations broadcast programmes based on the school curriculum to reach students in the interior areas. There are about 70,000 schools equipped with radio sets in the country. Radio support to University correspondence degree courses is also provided by several stations.

Sports events in India and abroad are covered by reviews, running commentaries and voice despatches. Four metropolitan centres of Bombay, Calcutta, Delhi and Madras present a daily sports service of 95 minutes that covers all the important sports events. Besides, two news bulletins, one in English and the other in Hindi, of 5 minutes duration, a weekly sports newsreel is also broadcast.

Audience Research

The audience research unit undertakes regular surveys and analyses of listeners' reactions to various types of programmes broadcast on the AIR and Doordarshan network. It provides data for determining the rates of 'spots' and sponsored programmes in the commercial service and also surveys the reception quality of various stations. It also undertakes feed forward surveys to provide basic information about the audience and the potential for programme coverage when a new AIR station or TV centre is started.

Transcription and Programme Exchange

The transcription and programme exchange service of AIR helps different stations to receive and exchange outstanding programmes, transcribes the speeches of eminent personalities and maintains the Library of Sound Archives.

The Archives Library, set up in 1954, collects and preserves on a permanent basis the recorded speeches of the President, Vice-President and Prime Minister. Voice recordings of several other eminent Indian and foreign personalities are also preserved.

The library has nearly 24,000 tapes on stock with about 3,000 tape recordings of Jawaharlal Nehru's speeches. Among valuable items preserved are (i) recitations from the Vedas in Sanskrit in the traditional style; (ii) poetry recitations by eminent poets in Hindi and other languages; (iii) recitals by old masters of music, both Hindustani and Karnatak; (iv) selected items of music by eminent musicians representing different gharanas; (v) representative pieces of folk music, devotional music and stage songs; and (vi) recordings of freedom fighters.

Over 2,000 hours of music of great masters—both Hindustani and Karnatak and folk and regional music—have been preserved so far and 200 hours of music are added to it every year.

Extensive use of archival material is being made by AIR for preparation of different categories of National Programmes. The Delhi Station of AIR has been broadcasting since April 1974, a weekly programme entitled 'Chayan' for one hour on Sundays based on recordings available in the archives.

The programme exchange unit of this service circulates recordings and scripts received from AIR stations and foreign-broadcasting organisations. All National Programmes—music, Plays, features, talks/interviews and discussions are circulated among the stations. Contributions from about 50 foreign broadcasting organisations are received, processed and circulated to AIR stations.

Programme Journals

All India Radio brings out eight programme journals. These are: Akashvani (English), Akashvani (Hindi) and Awaz (Urdu) published from Delhi; Betar Jagat (Bengali) and Akashi (Assamese) published from Calcutta; Vanoli (Tamil) from Madras; Vani (Telugu) from Vijayawada and Nabhovani (Gujarati) from Ahmedabad. Akashvani (English) is a weekly, while others are fortnightly. The External Services Division of AIR also brings out quarterly programme folders intended for the overseas listeners, one each in Arabic, Burmese, Chinese, French, Indonesian, Nepali, Persian, Pushtu, Swahili and Tibetan. It also brings out a monthly journal 'India calling' in English.

TABLE 10.1
NUMBER OF
BROADCAST
RECEIVER
LICENCES
(1979)

Name of Circle	Radio	Television
Andhra Pradesh	15,20,592	17,798
Bihar	6,72,970	1,706
Delhi	7,43,195	2,64,881
Gujarat	17,21,337	7,504
Jammu and Kashmir	1,59,411	11,242
Kerala	12,62,609	63
Karnataka	13,97,036	418
Maharashtra	27,36,381	3,67,929
Madhya Pradesh	9,33,971	2,435
North East	2,47,843	21
North West	16,63,522	1,61,104
Orissa	2,43,440	923
Rajasthan	9,58,052	18,485
Tamil Nadu	25,11,091	76,604
Uttar Pradesh	21,11,979	1,28,815
West Bengal	17,63,609	89,873
Army Postal Service	76,975	1,510
TOTAL	2,07,24,013	11,51,311

DOORDARSHAN

Television set-up in India was delinked from All India Radio on 1 April 1976 and given the name 'Doordarshan'. The creation of Doordarshan as a separate department is meant for fuller development of the medium and specialised skills peculiar to television.

The first television centre in India was set up in Delhi on an experimental basis in September 1959. The programmes were meant for schools and rural areas. Community viewing centres known as 'Tele-clubs' were established for viewers. The first General Service on a regular basis started from Delhi in August 1965.

At present, there are seven full fledged TV centres in the country located at Delhi, Bombay, Calcutta, Madras, Srinagar, Jullundur and Lucknow. There are four relay centres—one at Pune to relay Bombay programmes, the second at Mussoorie to relay Delhi programmes, the third at Kanpur to relay Lucknow programmes and the fourth at Amritsar to relay programmes from Jullundur. Apart from these, seven transmitters have been functioning at Gulbarga, Hyderabad, Jaipur, Muzaffarpur, Raipur, Sambalpur and Ahmedabad (Pij), for providing terrestrial TV service under the SITE on-going plans. There are three base production centres located at Delhi, Cuttack and Hyderabad. Some facts about TV centres, relay centres and SITE on-going transmitters are given in table 10.2.

On-going SITE

Satellite Instructional Television Experiment (SITE) which began on 1 August 1975 and described as the biggest communication experiment of its kind ended successfully on 31 July 1976. The satellite was made available for beaming instructional programmes in four languages for four hours daily for a year. About 2,400 villages in the six states of Rajasthan, Madhya Pradesh, Orissa, Bihar, Andhra Pradesh and Karnataka, where special TV sets were provided, benefited from these programmes.

In view of the success of SITE, the government decided to provide a terrestrial TV service specially to those villages in the area covered

TABLE 10.2
COVERAGE OF DOORDARSHAN CENTRES
(As on 1 August 1980)

Sl. No.	Name of Centre	Power of transmitter (kw.)	Band/Channel of Operation	Height of Tower/Mast (metre)	Service Range (kms.)	Area covered (Sq. kms)	Population covered (in lakhs)		No. of villages covered	Date of commissioning	
							Urban	Rural			Total
A. Existing Centres											
1.	Delhi	10	I/CH. 4	100	68	14,300	67.5	25.5	93	2,523	15-9-59
2.	Bombay	10	I/CH. 4	300	70 to 100	10,000	65	20	85	2,500	2-10-72
3.	Srinagar	10	I/CH. 4	122	30 to 70	4,000	5	20	25	2,600	26-1-73
4.	Amritsar	10	III/CH. 7	100	65	8,400	6	14	20	1,600	29-9-73
5.	Pune	0.6	III/CH. 5	100	52 to 90	15,000	14	26	40	1,400	2-10-73
6.	Calcutta (Pt. Tower)	10	I/CH. 4	175	75	17,000	73	87	160	7,500	9-8-75
7.	Madras	10	I/CH. 4	175	80	12,000	36	25	61	2,100	15-8-75
8.	Lucknow (Interim Set up)	10	I/CH. 4	100	60	11,300	9	46	55	5,000	27-11-75
9.	Mussoorie	10	III/CH. 10	91	165	29,200	19	93	112	9,700	12-8-77
10.	Kanpur	10	III/CH. 5	150	75	9,500	13	27	40	2,700	12-1-79
11.	Jullundur (Interim set up)	1	III/CH. 9	35	25	2,000	2.7	6.8	9.5	830	13-4-79
B. Site on-going Transmitters											
12.	Pij	1	III/CH. 7	100	40	5,000	2.9	13.7	16.6	700	1-8-76
13.	Jaipur	10	III/CH. 5	100	90	25,400	8.3	26.7	35	4,400	1-3-77
14.	Raipur	1	III/CH. 5	100	40	5,000	5	6.5	11.5	400	10-5-77
15.	Gulbarga	1	III/CH. 7	100	40	5,000	2	4	6	300	3-9-77
16.	Hyderabad	10	I/CH. 4	150	75	17,000	19	19	38	1,600	23-10-77
17.	Sambalpur	1	III/CH. 7	100	40	5,000	1.3	4.2	5.5	650	30-4-78
18.	Muzaffarpur	1	III/CH. 6	100	40	5,000	1.8	17.2	19	1,600	14-6-78
Total existing coverage							350.5	481.6	832.1	48,103	
C. Permanent Set Up											
(to be set up at existing centres)											
1.	Jullundur	10	III/CH. 9	200	80	14,000	13	42	55	4,600	—
2.	Lucknow	10	I/CH. 4	175	75	17,700	11	61	72	7,500	—
3.	Delhi	2x10	I/CH. 4	200	90	25,400	69	60	129	5,180	—

by SITE. Accordingly a plan was embarked under which a chain of transmitters were installed at Gulbarga, Hyderabad, Jaipur, Muzaffarpur, Raipur and Sambalpur. In addition, a low power transmitter set up at Pij by the ISRO was also taken over by Doordarshan as part of SITE continuity and this is serving the Kheda area of Gujarat. These transmitters commissioned in 1977-78, cover a total of 9,560 villages in the aforesaid states including 1,014 villages covered earlier by the SITE programmes.

- Programming** The main objective of television continues to be to aid the socio-economic development of the country and to impart special education in a variety of ways. The programmes are planned and produced in such a way that both the urban and rural viewers benefit by the various services provided by the medium. The attempt is to make these programmes objective, educative and entertaining.
- School Telecast** At present, educational programmes for school students are telecast by Delhi, Bombay, Srinagar and Madras Doordarshan centres. In addition, from the transmitters located at Jaipur, Raipur and Muzaffarpur, programmes for schools are being telecast for a duration of 30 minutes on school days. Educational TV lessons from Delhi are planned and presented in close cooperation and in consultation with the concerned educational authorities. Sixteen programmes per week in various subjects are telecast by this centre. Doordarshan Bombay telecast two lessons of 20 minutes duration each on three days a week. Doordarshan Srinagar and Madras telecast two lessons of 20 minutes each twice a week.
- Commercial Telecast** **Commercials on Doordarshan, introduced from 1 January 1976, are now being telecast from seven centres namely, Bombay-Pune, Delhi-Mussoorie, Madras, Calcutta, Lucknow-Kanpur, Jullundur-Amritsar and Srinagar. Advertisements are booked in the form of static and movie spots and also by sponsoring the programmes produced and put out by Doordarshan. Ten per cent of the total transmission time is made available for commercial telecasts. The revenue earned through commercials is expected to reach Rs eight crores during 1980-81.**
- Community Viewing** In order to ensure that the television programmes are viewed by a large number of people, television sets have been made available by the government at selected community centres and in schools. These sets are maintained by Doordarshan and the concerned administrative authorities. At present, there are 1,333 community viewing sets located in schools, Tele-clubs and villages in and around Delhi. Srinagar has 575 sets. Doordarshan has made available 1,040 community viewing sets to the various state governments where its centres are located. The state governments are also providing community viewing sets on their own.

At present there are seven TV stations, four relay centres and seven SITE on-going transmitters in operation in the country. Television coverage is now available to about 832 lakhs of population spread over an area of about 2,00,000 sq kms. The urban population covered is 350.5 lakhs and rural 481.6 lakhs. Doordarshan covers 6.1 per cent of the area and 15.2 per cent of the population of India.

THE PRESS

The Registrar of Newspapers for India, appointed under the provisions of the Press and Registration of Books (Amendment) Act, 1955, prepares an annual report on the press, which is presented to Parliament. The Registrar also allots newsprint and recommends import of printing machinery for newspapers.

The number of newspapers stood at 17,168 at the end of 1979 compared to 15,814 in 1978 showing an increase of 1,354 newspapers during the year. Out of the total number of newspapers published in the country, 5,199 (30.3 per cent) were brought out from the four metropolitan cities of Delhi, Bombay, Calcutta and Madras.

Out of 17,168 newspapers, 1,087 were dailies, 86 tri/bi-weeklies, 5,023 weeklies and 10,972 other periodicals. Statewise, Uttar Pradesh had the largest number of newspapers (2,357) followed by Maharashtra (2,315), Delhi (2,033), West Bengal (1,876) and Tamil Nadu (1,166). Other states which had more than 500 newspapers were Andhra Pradesh (967), Kerala (915), Rajasthan (907), Karnataka (863), Madhya Pradesh (629), Gujarat (625) and Punjab (582).

The largest number of dailies (157) came from Uttar Pradesh and smallest (One) appeared from Meghalaya. Table 10.3 shows the state and periodicity-wise details of the number of newspapers at the end of 1979.

A language-wise study of newspapers showed that the largest number (4,610) was published in Hindi, followed by 3,288 in English, 1,259 in Bengali and 1,180 in Urdu. Other languages which claimed more than 500 newspapers were: Marathi (984), Tamil (755), Malayalam (697), Gujarati (674) and Kannada (556). Bilingual numbered (1,362). Table 10.4 shows publication of newspapers at the end of 1979 language-wise.

TABLE 10.4
NUMBER OF
Papers
(Language-wise)

Language	Dailies	Tri/bi-Weeklies	Weeklies	Others	Total 1978	Total 1979
English	98	7	371	2,812	3,085	3,288
Hindi	333	26	2,112	2,139	4,196	4,610
Assamese	3	1	18	36	53	58
Bengali	32	7	340	880	1,138	1,259
Gujarati	38	3	163	470	634	674
Kannada	67	3	145	341	473	556
Kashmiri	—	—	1	—	1	1
Malayalam	94	—	106	497	609	697
Marathi	110	13	309	552	913	984
Oriya	10	—	30	165	168	205
Punjabi	22	1	146	206	349	375
Sanskrit	2	—	3	24	27	29
Sindhi	4	—	20	39	62	63
Tamil	75	3	115	562	703	755
Telugu	28	2	135	338	483	503
Urdu	114	6	579	481	1,130	1,180
Bilingual	24	11	319	1,008	1,278	1,362
Multilingual	6	1	65	263	304	335
Others	27	2	46	159	208	234
TOTAL	1,087	86	5,023	10,972	15,814	17,168

TABLE 10.3
NUMBER OF NEWSPAPERS (STATE AND PERIODICITY WISE)—1979

State/Union Territory	Dailies	Tri/bi- Weeklies	Weeklies	Fort- nightlies	Monthlies	Quarterlies	other periodicity	Annals	Total
Uttar Pradesh	157	17	1,186	239	573	122	57	6	2,357
Maharashtra	152	20	544	196	883	295	122	103	2,315
Delhi	45	1	294	223	981	354	113	22	2,033
West Bengal	46	6	412	249	662	345	133	23	1,876
Tamil Nadu	82	5	143	161	642	84	40	9	1,166
Andhra Pradesh	55	3	347	162	323	46	27	4	967
Kerala	96	1	126	101	496	55	29	11	915
Rajasthan	62	1	372	227	172	49	21	3	907
Karnataka	93	4	207	141	320	64	32	2	863
Madhya Pradesh	85	8	331	50	113	26	13	3	629
Gujarat	34	3	163	82	274	37	29	3	625
Punjab	34	1	199	84	204	29	26	5	582
Bihar	31	5	231	68	107	33	10	1	486
Haryana	9	—	125	79	98	21	9	—	341
Orissa	11	—	37	23	122	43	13	6	255
Jammu and Kashmir	23	—	112	17	16	3	3	—	174
Chandigarh	10	—	31	18	50	32	14	3	158
Assam	6	3	46	23	31	13	10	1	133
Himachal Pradesh	—	—	23	13	27	8	8	—	79
Tripura	13	1	38	4	3	1	1	—	61
Manipur	19	1	5	8	14	6	4	2	59
Pondicherry	—	1	6	4	20	14	4	1	50
Meghalaya	1	4	18	4	10	5	3	—	45
Goa, Daman and Diu	8	—	8	3	15	6	2	—	42
Mizoram	13	1	12	1	4	1	1	—	33
Andaman and Nicobar	2	—	3	—	2	2	2	—	11
Nagaland	—	—	3	—	—	2	—	—	5
Dadra and Nagar Haveli	—	—	1	—	—	—	—	—	1
TOTAL	1,087	86	5,023	2,180	6,162	1,696	726	208	17,168

Circulation of
News papers

The data available for 1979 showed that the newspapers had a circulation of 464.49 lakh copies as compared to 408.50 lakhs in 1978. The circulation of dailies in 1979 was 130.33 lakh copies as compared to 112.42 lakhs in 1978. Out of 8,052 newspapers for which the publishers supplied circulation data, 7,549 claimed a circulation of up to 15,000 copies per publishing day ('small' newspapers) and had a combined circulation of 171.51 lakhs or 36.9 per cent of the total. Another 329 newspapers having circulation between 15,001 and 50,000 copies ('medium' newspapers) claimed a combined circulation 89.10 lakhs or 19.2 per cent. However, 174 newspapers, having circulation of more than 50,000 copies ('big' newspapers) together accounted for 203.88 lakhs or 43.9 per cent of the total circulation of all the newspapers in India.

Newspapers in Hindi had the highest circulation of 114.08 lakh copies in 1979 as compared to 97.06 lakhs in 1978. English also fared better with a total circulation of 102.24 lakh copies in 1979 as against 90.30 lakhs in 1978. Other major language newspapers having a circulation of 10 lakhs and above were : Tamil 48.16 lakhs, Malayalam 40.07 lakhs, Bengali 28.23 lakhs, Gujarati 25.77 lakhs, Marathi 25.35 lakhs, Urdu 19.16 lakhs, Telugu 17.88 lakhs and Kannada 15.27 lakhs. Among the principal languages, Sanskrit newspapers had the lowest circulation (15,000 copies). The language and periodicity-wise break-up of the total circulation in 1979, is given in table 10.5.

(in thousands)

TABLE 10.5
CIRCULATION
(Language and
Periodicity-wise
in 1978)

Language	Dailies	Tri/bi- Weeklies	Weeklies	Other Periodicals	Total
English	2,969	4	1,648	5,603	10,224
Hindi	2,997	51	3,327	5,033	11,408
Assamese	50	19	73	30	172
Bengali	823	13	685	1,302	2,823
Gujarati	1,019	36	654	868	2,577
Kannada	392	5	460	670	1,527
Kashmiri	—	—	—	—	—
Malayalam	1,273	—	1,366	1,368	4,007
Marathi	1,239	13	475	808	2,535
Oriya	131	—	20	169	320
Punjabi	218	—	328	208	754
Sanskrit	2	—	1	12	15
Sindhi	19	—	45	20	84
Tamil	814	6	2,166	1,830	4,816
Telugu	470	15	494	809	1,788
Urdu	558	8	772	578	1,916
Bilingual	44	9	335	710	1,098
Multilingual	2	—	45	177	224
Others	13	17	30	101	161
TOTAL	13,033	196	12,924	20,296	46,449

Newspapers owned by individuals commanded a circulation of 149.45 lakh (32.2 per cent) copies, while newspapers owned by joint stock companies claimed a circulation of 179.12 lakh (38.5 per cent) copies. Table 10.6 gives the circulation data and ownership pattern of the newspapers.

TABLE 10.6
OWNERSHIP
PATTERN

Form of ownership	Number of papers ¹	1979	
		Circulation ('000)	Percentage to total circulation
Individual	4,638	14,945	32.2
Joint Stock Companies	487	17,912	38.5
Firm/Partnerships	436	4,537	9.8
Societies/Associations	1,666	3,999	8.6
Government (central & state)	267	1,328	2.8
Others	558	3,728	8.1
TOTAL	8,052	46,449	100.0

¹Represents newspapers whose circulation data were available.

Newsprint

The requirements of newsprint for newspapers and periodicals in the country are met through indigenous production of the National Newsprint and Paper Mills at Nepa Nagar in Madhya Pradesh and through imports. The total indigenous production for the year 1979-80 was 42 thousand tonnes. Total requirements of newsprint including election quota was 3.42 lakh tonnes for 1979-80.

The newsprint policy for the year 1979-80 (announced on 18 May 1979) provided a growth rate of five per cent over the consumption of newsprint or white printing paper by individual newspapers during 1978-79. However, newspapers were allowed to obtain additional newsprint quota on the basis of their higher performance.

Newsprint
Advisory
Committee

A newsprint advisory committee, first set up in July, 1964, advises the government on the import and allocation policy for newsprint and printing machinery. As re-constituted in 1977 the committee has the Minister of Information and Broadcasting as the chairman. Members include two nominees one each from the Indian and Eastern Newspapers Society and the Indian Language Newspapers Association, one each from the Indian Federation of Working Journalists and the National Union of Journalists (India), three members of Parliament and six other official nominees of the government. Non-official members hold office for two years from the date of appointment but can be reappointed. The committee meets ordinarily twice a year.

PRESS
COUNCIL

The Press Council of India was set up on 1 March 1979, under the Press Council Act, 1976 for safeguarding the freedom of press and for maintaining and improving the standards of newspapers and news agencies in India. The council has the power to consider complaints *suo-moto*, in addition to inquiry into complaints brought before it. It has also been empowered to make observations against any authority including government if it considers it necessary for the performance of its functions.

The Council held four meetings during 1980. It disposed of 44 of the complaints received under Section 14(1) of the Act and 13 complaints under section 13 of the Act. Thirty one complaints were treated as closed either because they were outside the charter of the Council or the complainants themselves did not pursue them. Inquiry

in respect of 33 complaints under Section 14(1) and 30 complaints under Section (13) are in the various stages of progress.

PRESS COMMISSION

The Press Commission, set up in May 1978, was reconstituted with a new chairman and 10 other members. It was also entrusted with revised and enlarged terms of reference. Justice K. K. Mathew was appointed the new chairman on 12 April 1980 and ten new members were added to the Commission on 18 June 1980. Keeping in view the suggestions received from the various press associations/organisations, the revised terms of reference were finalised on 24 July 1980. These revised terms enlarge the area of inquiry, impart to these a greater amplitude, add an element of social and national reference and signify the great importance government attaches to the Commission's work. The Commission's tenure has been extended upto 31 December 1981.

PRESS INFORMATION BUREAU

The Press Information Bureau (PIB) disseminates information about the policies and programmes of the Government of India through the media of the press. It also keeps the government informed of the reaction to these policies as reflected in the press. PIB officers attached to various ministries issue press releases and feature articles, arrange press conferences/briefings and maintain contacts with the Indian and foreign correspondents and cameramen accredited to the Government of India. The PIB also co-ordinates publicity with the state governments and the public sector undertakings. It also supplies publicity material to Indian diplomatic missions abroad through the External Publicity Division of the Ministry of External Affairs.

The Bureau's information material is issued in English, Hindi and 16 other languages and is supplied not only to news agencies and journals stationed in Delhi but also to the language press all over the country through its 32 regional and branch offices, which are linked by teleprinter circuits with the headquarters in Delhi.

For the benefit of small and medium newspapers, PIB provides special services like the weekly digest of news, short illustrated feature articles on diverse subjects, economic digest, agricultural newsletter, science notes and health and family welfare newsletter. For district level Hindi papers, a special weekly service "Gramin Patra Seva" is issued. Illustrated success stories covering development activities are also supplied to newspapers.

The total number of press releases issued by PIB during 1980 was 63,678—14,318 in English, 9,610 in Hindi, 8,515 in Urdu and 31,235 in other languages. At the end of 1980, as many as 6,057 newspapers and periodicals—998 English, 1,522 Hindi, 828 Urdu and 2,709 other languages—were supplied with the Bureau's information material.

UNESCO Features

The Press Information Bureau in cooperation with UNESCO issues a fortnightly feature service in Urdu and Hindi. It provides information on educational, cultural, technical and scientific subjects unfolding inventions, discoveries, developments and new ventures of the member states of UNESCO.

Photo Service

The Bureau's extensive photo service caters to the needs of newspapers and journals that have block-making facilities. In addition ebonoid blocks and charbas, meant for small papers and Urdu papers respectively, are also provided by the Bureau. During 1980 the photo

unit supplied 39,458 prints to newspapers and journals through the headquarters and regional and branch offices of the Press Information Bureau. Photographs are also supplied in bulk to the External Publicity Division for publicity abroad and during 1980, 8,406 photos were supplied for this purpose.

Accreditation facilities

A Central Press Accreditation Committee advises the government on accreditation of press correspondents, cartoonists and cameramen. Besides supplying publicity material, the Bureau assists the press representatives with facilities like housing, telephone, medical, travel and customs clearance. Four hundred and seventy five Indian and foreign correspondents and 156 cameramen including technicians are accredited to the Government of India.

Nineteen news and feature agencies are accredited to the Central Government. Of them, the Press Trust of India, the United News of India, Hindustan Samachar and Samachar Bharati have wire service and are news agencies; and the others are news-cum-feature agencies. In addition twenty four foreign news agencies have been given accreditation.

Information Centres

PIB runs information centres at New Delhi, Jullundur, Srinagar, Imphal, Aizawl, Kohima and Port Blair. They provide reading room and library facilities and answer queries from the journalists and the public. Film shows are also arranged at these centres. Some of the state governments also maintain information centres at New Delhi and elsewhere. In addition, there are information centres maintained by certain central departments.

'Wall Newspaper'

A fortnightly wall newspaper, 'Hamara Desh', edited by PIB (started in 1970) is published in Bengali, English, Garo, Gorkhali, Hindi, Khasi, Lushai, Malayalam, Manipuri, Marathi, Tamil and Urdu. It projects the country's achievements and progress in various fields. Copies are displayed at key points in government offices and private organisations, railway stations, canteens, schools, post offices and other places, particularly in remote areas.

NEWS AGENCIES

The four main news agencies viz., Press Trust of India (PTI), United News of India (UNI), Samachar Bharati and Hindustan Samachar which merged in 1976, to form 'Samachar' started functioning as independent news agencies from 14 April 1978.

Of these the PTI and the UNI supply news in English. The other two are operating through the medium of Hindi and other Indian languages. PTI started its operations in 1949 after taking over Reuters' business in India as well as the interests of the Associated Press of India. Today it has a 1,200 strong editorial and technical staff and its news service is carried over by a teleprinter net work of over 50,000 kilometres length. Over 200 newspapers in India subscribe to the PTI service, besides All India Radio, Doordarshan, Governments (central and states), commercial establishments, universities and public institutions. The UNI started its operations in 1961. Both the agencies mostly depend upon arrangements with foreign international news agencies for collection of news from abroad. Samachar Bharati and Hindustan Samachar mainly serve the language press.

NON-ALIGNED NEWS AGENCIES POOL

The non-aligned countries met for the first time at the level of information Ministers between 8-13 July 1976 at New Delhi and in a declaration took note of "the persistent and the serious imbalance in the current global information situation" and its adverse effects on the non-aligned countries, stressed the need "to liberate their information and mass-media" from the colonial legacy, and expressed their collective determination to rectify this situation. The declaration called for "the decolonisation of information" and "the establishment of a new international order for information", which was felt to be "as necessary as the new economic order." To give practical shape to this urge the Non-Aligned News Agencies Pool was set up on 13 July 1976. Along with it, a coordinating committee was also formed to make the Pool operational. India, which played a leading role in the formation of the Pool, was elected chairman of the Coordinating Committee from July 1976 to November 1979.

The Press Trust of India operates the Non-Aligned News Agencies Pool from India. The exchange of news between the Indian news agencies and a number of national news agencies of non-aligned countries is already underway.

FILMS

Feature films are being produced in India since 1912-13. While R.G. Torney produced 'Pundalik' in 1912, Dada Saheb Phalke produced 'Raja Harishchandra' in 1913. The era of silent films was overtaken by the talkie era in 1931 when Ardeshir Irani produced 'Alam Ara'. Over the years, more than 15,000 feature films have been produced in India which now leads the world in the annual output of feature films.

During 1980, 742 Indian feature films were certified for public exhibition as compared to 714 films in 1979. Of these 635 films were in colour and 107 in black and white. Bombay, Calcutta and Madras are the most important production centres. Region wise certification reveals that the output of southern region was more than the output of the Bombay and Calcutta regions and accounted for nearly 66 per cent of the total film production. During 1980, 201 films were certified at Bombay, 479 at Madras and 62 at Calcutta. Bangalore is also fast coming up as a centre for production of feature films. The number of feature films produced in various languages and certified for public exhibition for selected years from 1951 onwards is shown in table 10.7.

Documentaries and Newsreels

Weekly Indian News Review, cartoon films, quickies and documentaries required for public information, education and instruction are produced by the Films Division of the Ministry of Information and Broadcasting. The Division set up in 1948 had a modest beginning with the production of only 33 documentary films, 12 compilations and 52 newsreels in 1949-50. Currently, through its annual production of 140 short films (including four cartoon films), 52 national newsreels and 52 regional newsreels, the Division has been recording the contemporary history of India and presenting filmic reports on the socio-economic progress of the country. Most of the films are produced in English and 15 regional languages.

Important newsworthy events within and outside India are in-

TABLE 10.7
OUTPUT OF
FEATURE FILMS

Language	1951	1956	1961	1966	1971	1976	1977	1978	1979	1980
Assamese	—	3	2	2	5	5	7	6	10	7
Bidaga	—	—	—	—	—	—	—	—	—	1
Bengali	38	54	36	30	30	32	31	37	37	37
Bhojpuri	—	—	—	—	1	—	2	1	2	3
Dogri	—	—	—	1	—	—	—	—	—	—
English	—	—	—	—	1	2	3	2	1	—
Gujarati	6	3	7	2	3	29	30	32	38	34
Hindi	100	123	109	108	120 ²	106	134	122	114	99
Kannada	2	14	12	21	33	45	49	54	59	68
Konkani	—	—	—	—	1	1	1	1	—	2
Malayalam	7	5	11	31	52	84	91	123	131	145
Manipuri	—	—	—	—	—	1	—	—	3	—
Marathi	16	13	15	12	23	10	19	15	19	28
Nepali	—	—	—	1	—	—	—	1	1	—
Oriya	—	2	2	2	1	6	11	15	11	15
Punjabi	4	—	5	4	2	10	12	8	15	6
Sindhi	—	—	—	1	1	—	—	—	—	—
Tamil	26	51	49	60	73	81	66	105	140	145
Telugu	20	27	55	41	85	93	99	94	133	152
Tulu	—	—	—	—	2	2	2	3	—	—
TOTAL	219	295	303	316	433	507	557	619	714	742

¹ Includes Urdu, Rajasthani and Hindustani films

² Includes 14 Hindustani, one Maithili, one chhattisgarhi and four Urdu films cluded in the weekly national newsreels. The Films Division has exchange arrangements with 18 foreign newsreel organisations for free exchange of important international news events. Eighteen newsreel cameramen stationed at various centres in India cover important news events. News events are also filmed by stringers. At present, the Division releases one newsreel per region in a month. The cartoon film unit of the Division produces cartoons by using a variety of techniques.

Every cinema house in India is required, under the terms of its licence, to exhibit at each performance not more than 609 metres of 'approved films' supplied by the Division on a rental of one per cent of the average weekly collections. One newsreel and two short films are released every week at important centres. These are then rotated to cinema houses at other places in the country. In 1979-80, the Division earned Rs 274 lakhs by way of rentals from cinema houses and 7,622 prints were supplied free of charge to various publicity units.

The Division also supplies prints on loan to government departments, semi-government bodies, educational and charitable institutions, hospitals, social welfare organisations and individuals through its eight distribution branch offices, as well as through the regional and field publicity units of the Directorate of Field Publicity, for non-commercial shows free of charge.

Documentaries considered suitable for exhibition abroad are supplied to Indian Missions abroad at the instance of the Ministry of External Affairs. The Division has regular arrangements for the screening of its documentaries and newsreels in cinema houses in Fiji Islands and Mauritius. It also sells films to television organisations all over the world on royalty as well as rental basis.

In 1979-80, the Division produced 114 documentary films (40 black and white and 74 colour) through its own units and 29 films (15 black and white and 14 colour) through independent producers. The Division released 139 documentary films and 130 newsreels during 1979-80. They included 106 documentary films, 52 national newsreels and 9 special newsreels produced by the Division and 33 documentary films and 78 newsreels produced by the state governments. The Division participated in 43 international film festivals and one national films festival and won six awards.

Censorship

Films can be exhibited in India only after they have been certified by the Central Board of Film Censors. The Board, set up under the Cinematograph (Censorship) Act of 1952, consists of nine members and a chairman, all of whom are appointed by the Government of India. The headquarters of the Board is at Bombay with regional offices at Bombay, Calcutta and Madras. The regional offices are assisted in the examination of films by advisory panels, the members of which are appointed by the government and include educationists, lawyers, social workers and others. The Board was reconstituted in November 1977. The detailed guidelines issued to the Board in 1960 were rationalised and concise guidelines were issued by the government in January 1978. Under these guidelines a film is now to be judged in its entirety from the point of view of its overall impact. The Board has taken steps to curb depiction of violence and vulgarity in films.

The Board examines the films and grants a 'U' certificate for unrestricted public exhibition or an 'A' certificate for exhibition restricted to adults, above the age of 18 years. The Board may direct the applicant to carry out excisions or modifications before granting the certificate. It may also refuse the certificate if the film or any part of it is against the interest of the security of the State, friendly relations with foreign states, public order, decency, morality or involves defamation or contempt of court or is likely to incite the commission of an offence. Whenever any deletions are ordered, their particulars are notified in the Gazette of India. The applicant can appeal to the Government of India within 30 days of an order of the Board.

A bill to amend the cinematograph Act, 1952, to provide *inter-alia* for an independent appellate tribunal to hear appeals against the decisions of the Board was introduced in the Rajya Sabha on 24 December 1980.

In 1980, the Board granted 'U' certificates to 1,952 Indian and 1,719 foreign films. 'A' certificates were granted to 171 Indian and 100 foreign films. The Board classified 1,560 films as predominantly educational. The Board recertified 746 films during 1980. Out of them 706 films were granted 'U' certificates and 40 'A' certificates.

Exhibition
Facilities

There has been a steady growth of exhibition facilities for showing films in the country. Table 10.8 gives the number of cinemas for selected years from 1971-72 to 1979-80.

TABLE 10.8
NUMBER OF
CINEMAS

Cinemas	1971-72	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Permanent	4,590	5,474	5,650	5,845	6,030	6,216	6,305
Touring	2,711	3,266	3,367	3,322	3,521	3,744	4,157
Total	7,301	8,740	9,017	9,167	9,551	9,960	10,462

NATIONAL
FILM
DEVELOPMENT
CORPORATION

The National Film Development Corporation was set up in 1975 with the broad objective to plan, promote and organise an integrated and efficient development of the film industry in accordance with the national economic policy and objectives laid down by the government. It has the following principal activities: (i) Handling the work of import and export of feature films; (ii) Import, allocation and distribution of raw stock and equipment used by the film industry; (iii) Distribution and exhibition of films through the existing network in the country and also by undertaking a programme of construction of a chain of national theatres; (iv) Promotion of quality films; and (v) Promotion of research and development in film equipment and raw stock.

The Corporation remained dormant since its inception. It was activated on 11 April 1980 and Film Finance Corporation and the Indian Motion Picture Export Corporation were amalgamated with it.

During April—December 1980, the Corporation sanctioned loans totalling Rs 87.29 lakhs for construction of theatres and production of films.

It imported 13 feature films from abroad, released 20 films and earned Rs 49.60 lakhs from the distribution of imported foreign films. On the export front, it exported Indian films worth Rs 19.84 lakhs. In addition, as the canalising agency, it earned a commission of Rs 21.48 lakhs.

For the first time, the Corporation embarked on co-production of films. It entered into a co-production arrangement with Indo-British Films Ltd. (UK) for production of a film on Mahatma Gandhi.

The Corporation has plans to promote development of film industry by (i) providing sub-titling and 16 mm facilities, (ii) setting up a unit for video-taping of Indian feature films, and (iii) opening offices in New York, London and Hong Kong for expanding markets for Indian films.

CHILDREN'S
FILM SOCIETY

Films for children are produced mainly by the Children's Film Society. It was set up in May 1955 as an autonomous body, registered under the Societies Registration Act, 1860, to undertake, aid, sponsor, promote and co-ordinate the production, distribution and exhibition of films suited for children and adolescents. In the last 26 years, it has produced and acquired around 160 features and shorts which include live action films, puppet films and cartoons. Of these, 12 films have won national and international awards. The expenditure of the Society is largely met from grants-in-aid given by the central government though it also earns revenue through commercial shows of its films and hire charges of 16 and 35 mm. films.

The films of the Society are regularly shown in various metropolitan cities and towns. Many schools, social welfare centres and industrial establishments borrow films from the 16 mm library of the Society for screening at their premises for the benefit of children. The Society organises a festival of children's films and participates in various international and national film festivals by entering its films.

The Society organised the First International Competitive Children's Film Festival at Bombay from 7 to 16 December 1979. Twenty five countries participated in it. It is to organise the Second International Competitive Neo-youth (childrens') film festival at Madras in November 1981.

DIRECTORATE OF FILM FESTIVALS

The Directorate of Film Festivals, set up by the Ministry of Information and Broadcasting in May, 1973, implements the scheme of national film festival and regulates India's participation in international film festivals. It arranges festivals of foreign films in India and of Indian films abroad under bilateral cultural exchange programmes. It also organises International Film Festival of India and other film expositions.

National Film Festival

Instituted in 1953, the scheme of National Film Festival (earlier called National Awards for Films) aims at promoting India's film art by acknowledging outstanding achievements in different categories of film making. In addition, there is the Dadasaheb Phalke Award, a special award for outstanding contribution to the cause of the Indian cinema. The National awards consists of the golden lotus (*Swaran Kamal*) the silver lotus (*Rajat Kamal*) and cash prizes.

The Dadasaheb Phalke Award is decided by the Government of India and entries for the National Film Festival are examined by the two national juries—one for short films and the other for feature films.

For the twenty-seventh National Film Festival, entries of 88 feature films and 100 short films were received. The first Hindi feature film produced in Orissa, '*Shodh*', was adjudged the 'best feature films of the year' and awarded *Swaran Kamal* (golden lotus) and a cash prize of Rs 40,000 to its producer and *Rajat Kamal* (silver lotus) and a cash prize of Rs 20,000 to its director. It also bagged the award for best cinematography (colour). '*Sankarabharanam*' (Telugu) was adjudged the best feature film with mass appeal, wholesome entertainment and aesthetic value. The award for best feature film on national integration was bagged by '*22 June 1897*' (Marathi). The Kannada film '*Dangeyedda Makkalu*' was adjudged as the best childrens' film. Shri Naseeruddin Shah won the best actor award for his role in the film '*Sparsh*' (Hindi) and Smt. Shoba won the best actress award for her role in the film '*Pasi*' (Tamil). The best child actor award was bagged by Miss Geeta Khanna for her role in '*Aangan Ki Kali*' (Hindi). The Dadasaheb Phalke Award for outstanding contribution to the cause of Indian cinema was given to Shri Sohrab Modi.

The scheme now covers 26 categories consisting of all-India and regional awards. The regional awards are meant for films produced in the principal languages of the country.

India's Parti- cipation in Film Festivals Abroad

The Directorate sponsored participation in 19 festivals during 1980. The film *Neem Annapura* (Bengali) of Buddhadeb Dasgupta won a special jury award at the Karlory Vary Film Festival and a special

award at the Locarno Film Festival. At the Jakarta Film Festival, three Indian entries, Basu Bhattacharya's *Grihapravesha* (Hindi), K. R. Mohan's *Aswathama* (Malayalam) and Girish Karanavalli's *Akramana* (Kannada) won the festival's 'Mitra' awards. Satyajit Ray's *Joi Baba Felunath* (Bengali) fetched a special award at the Cyprus Film Festival.

A retrospective of Mrinal Sen's films, 13 of them, was organised at the London Film Festivals.

International Film Festivals in India

The Eighth International Film Festival in India, a competitive international film festival, was held in New Delhi from 3-17 January 1981. Fiftyfour countries participated in the festival with twenty-nine features and thirteen short films in the official section and 87 feature and 31 short films in the information section. The festival was organised by the Directorate of Film Festivals in collaboration with the Film Finance Corporation and the Indian Film Industry. The festival is recognised as 'A' grade by the Federation of International Film Producer's Association. It has the distinction of joining the six top ranking festivals of the world, the other five being Cannes, Berlin, San Sebastian, Tehran and Karlovy Vary (alternating with Moscow).

Other Film Festivals

During 1980-81, a Festival of Film from USSR was held at New Delhi, Chandigarh and Hyderabad. The premiere of the GDR Film *The Horse Girl* was held in New Delhi on 6 November, 1980. Indian Film Weeks were held in Philippines, Netherlands, Poland, Czechoslovakia and Soviet Union.

NATIONAL FILM ARCHIVE OF INDIA

The National Film Archive of India was established in 1964 with the primary objective of acquisition and preservation of national and international cinema, film classification, documentation and research and encouraging film study and spread of film culture. Its collections as on 31 December 1980 totalled 5,744 film titles, including free deposits and duplicate print/material. It also has ancillary film material of 9,684 books, 214 periodicals, 1,367 disc-records, 14,921 stills, 3,198 wall posters, 2,813 song booklets, 10,662 film scripts, 3,947 pamphlets/folders and 1,316 press clippings.

The Archive acquired 657 films during 1980. The significant additions include *Yaadein* (Hindi, 1969), Tamil films *Nandanar* (1941), *Madana Kamarajan* (1941), *Manonmani* (1941), *Rajarajeshwari* (1944), *Aayiram Thalaivangi Apporva Chintamani* (1947) and *Missiamma* (1955), *Maya Bazzar* (Telugu, 1974), *Parakh* (Hindi, 1944), *Ek Din Ka Sultan* (Urdu, 1945) and Marathi films *Sangtye Aika* (1959) and *Ek Gaon Bara Bhangadi* (1963) were also acquired during 1980. The foreign films acquired include Alexander Korda's *Anna Karenina* (1935), Joseph Van Sternberg's *Blond Venus* (1932), Edward Small's *Corsican Brothers* (1941), Costa Gavras French Algerian Co-production 'Z' and the award winning Lebanese documentary 'Letter from Beirut' by Jocelyn Saab.

The Archive also received some early actuality footage on India from the Paper Print and Klein Collection of the Library of Congress, Washington (D.C.) on exchange basis.

As a part of its screen education activities the Archive conducts refresher courses in film appreciation at Pune and other centres jointly with the Film and Television Institute of India and in collaboration with

the universities and film study groups. It also holds daily screenings at Pune for film students and regular weekly screenings at Bombay for the general public. The Archive maintains a distribution library of about 100 Indian and foreign films which are loaned to film societies and film study groups throughout the country for non-commercial study screenings.

WORKING GROUP ON NATIONAL FILM POLICY

The Working Group on National Film Policy which was set up in May 1979, to study the present state of film industry in areas such as production, distribution, exhibition and taxation and to suggest a national film policy submitted its report to the government on 2 June 1980, making in all 231 recommendations. In pursuance of the recommendations of the Working Group, a small Cell has been set up in the Ministry from 1 October 1980, to process its recommendations for government decisions. Decisions have been taken in respect of about 125 recommendations. Action to process the other recommendations is in progress.

PUBLICATIONS

The Publications Division of the Ministry of Information and Broadcasting is the biggest publishing house in the public sector. Originally set up in 1941 as the foreign branch of the Bureau of Public Information, it acquired its present name and separate identity in 1944. It publishes priced books, journals and other printed material in Hindi, English and other Indian languages on a wide range of subjects including art and culture, history and tradition, political evolution, democratic process, economic development and social resurgence. The Division has so far published about 5,560 books.

The Division has seven major series under which it publishes books. These are : (a) The Collected Works of Mahatma Gandhi; (b) Children's literature; (c) Builders of Modern India; (d) Cultural Leaders of India; (e) States of Our Union; (f) Speeches of leaders; and (g) Reference publications.

Books under the series "The Collected Works of Mahatma Gandhi" are produced in English and in Hindi. These include Gandhiji's speeches, writings, interviews and letters chronologically arranged and critically edited. Eighty volumes in English and 73 volumes in Hindi have so far been published. The series is expected to run into 90 volumes.

The "Builders of Modern India" series concentrates on presenting biographies of eminent sons and daughters of India who had played a prominent part in the national renaissance and the struggle for Independence. Fifty-one biographies have been published so far and 33 more are in various stages of preparation.

Books under the "Cultural Leaders of India" series provide the readers with authentic accounts of the life and work of the great figures since the earliest times to the 19th Century, who contributed to the culture and thought of India. Those under "States of Our Union" series serve as an introduction to different states and union territories. Seven titles have been brought out under Cultural Leaders of India and 24 under States of our Union series.

The Division also publishes speeches of national leaders including the President, the Vice-President and the Prime Minister.

Reference publications brought out by the Division include "India—A Reference Annual" and "Mass Media in India".

Apart from this, the Division also brings out art books. Some of the important publications include "Kangra Valley Painting", "Basohli Painting", "Garhwal Painting", "Heritage of Indian Art" and "Looking Again at Indian Art".

The Division brings out 20 journals of varying periodicity. "Yojana" a journal devoted to planning is brought out in Assamese, Bengali, English, Gujarati, Hindi, Malayalam, Marathi, Tamil and Telugu. "Bal Bharati" (Hindi) is produced for children while "Ajkal" (Hindi and Urdu) serves the cultural needs of adult readers. Other journals include the "Indian and Foreign Review", "Kurukshetra" and "Employment News", a weekly published in English, Hindi and Urdu.

The books and journals are sold through a network of over 3,000 booksellers and the Division's own sales emporia, which are located in New Delhi, Bombay, Calcutta, Madras, Patna, Trivandrum and Lucknow.

ADVERTISING AND VISUAL PUBLICITY

The Directorate of Advertising and Visual Publicity (DAVP) is the central agency of the Government of India for undertaking advertising and visual publicity campaigns on behalf of the various ministries and departments through press advertisements, printed publicity materials like posters, folders, leaflets, brochures and booklets, outdoor publicity items like hoardings, panels, cinema slides, metallic tablets, radio and television 'spots' and sponsored programmes. Policies and programmes of the government are also publicised through photographic exhibitions. The Directorate has 39 field exhibition units, most of them at state capitals, including five mobile vans and two exhibition rail coach.

The Directorate organised during 1979-80, 911 exhibitions covering 4,395 exhibition days. It designed and produced an exhibition entitled 'We Are One' on communal and social harmony. A special exhibition under the title 'India—the March to Modernity' was mounted at Vigyan Bhavan on the occasion of the 23 session of International Atomic Energy Agency and exhibitions on themes like 'Better Life for Villages', 'Children of India', 'India—March to Progress' and 'Happy Child Happy Family' were also put up.

The multi-media national campaigns of the Directorate are launched to inform and educate the people on matters of immediate and long term interest. Major campaigns were organised to promote family welfare, communal harmony and national integration and to eradicate untouchability. Other major campaigns aimed at educating the people about agro-economic development of the country, mobilisation of savings, popularisation of handlooms and handicrafts, civil rights, road safety, the use of standard weights and measures etc., were also taken up.

Advertisements

Advertisements in various newspapers/journals on behalf of various ministries (except Railways) and Departments of Government of India are released to the press by the Directorate. A number of autonomous bodies and public sector undertakings also channelise their advertisements through DAVP. Keeping in view the advertising policy of the government, specific publicity requirements and budge-

tary allocations, a balanced and equitable placement of advertisements is aimed at. In pursuance of the broad social objectives of the government, the appropriate weightage/consideration is given to small and medium newspapers/journals, specialised, scientific and technical journals, language newspapers/periodicals and newspapers/journals published especially from backward, border and remote areas.

The DAVP also accredits advertising agencies to enable them to undertake publicity work of public sector enterprises and autonomous bodies.

Awards for Printing and Designing

The Directorate organises a competition every year for the 'National Awards for Excellence in Printing and Designing of Books and other Publications' in order to generate healthy competitive endeavours for higher standards in printing, designing and layout. The 21st awards were announced in 1980 and a total of 304 awards were given to 202 winners under 55 categories.

Distribution

The DAVP maintains an 'address bank' of about 11.00 lakh addresses covering over 350 categories of target audience, 60 per cent of which belong to rural categories like panchayats, primary/high schools, block development officers, rural post offices, rural libraries, etc. for the mailing of its various publicity materials. During 1979-80, DAVP distributed 393 lakh copies of various publicity materials covering nearly 21.00 lakh direct mail despatches to various target audience.

FIELD PUBLICITY

The Directorate of Field Publicity is the largest single organisation under the government engaged in inter-personal communication at grass-root level. It has twenty-one regional offices located in state capitals and other centres and two hundred and forty seven field publicity units throughout the country. Of these, seventy-two are border publicity units and thirty family welfare units. Field publicity officers, who are incharge of these units, undertake tours particularly in rural, tribal, backward and border areas and organise a variety of publicity programmes like film shows, group discussions, talks, seminars, song and drama programmes and photo displays. These programmes pertain to major national themes like national integration, adult education, child welfare, family welfare, agriculture and agro-based and small-scale industries. Publicity programmes are also organised to make people aware of social evils like untouchability and drinking. On special occasions like the world health day, family welfare fortnight and national adult education programme, intensive publicity campaigns are launched by the field units. A sustained campaign is undertaken before election to educate voters of their rights.

Monitoring public reactions to the policies and programmes of the government is an important task assigned to field publicity officers. Their reports are consolidated at the headquarters and sent to the government. Success stories about people's participation in development programmes are also taken notice of and reported to other media units of the Ministry. Another important activity that is undertaken is to organise conducted tours of groups of opinion leaders from border and tribal areas. They are taken to various centres of developmental and cultural interest in the country so that they build public opinion in favour of socio-economic development plans. These

conducted tours also promote national integration.

In 1980, the field units remained on tour for nearly 22,000 days and organised over 69,000 film shows and 9,000 song and drama programmes. These programmes were witnessed by nearly 5.6 crore people.

EXTERNAL PUBLICITY

The External Publicity Division of the Ministry of External Affairs explains and interprets the policies of the government as well as political, economic, social and cultural developments in India to foreign audiences. It also co-ordinates and supervises the work of the information and cultural wings of Indian missions abroad. The Division briefs and assists Indian missions abroad to interpret all aspects of India's foreign policies to the public and the media in their respective countries through publicity material, special briefings etc.

The Division performs its activities through briefing of Indian as well as foreign press corps resident in India, publication of magazines, periodicals and pamphlets, sponsoring special supplements on India in foreign newspapers, organisation of visits by foreign journalists to India and Indian journalists abroad and publicity through films, radio and other audio visual means.

The Division brings out a fortnightly "Indian and Foreign Review" and its French version, "Courrier de l'Inde". It also publishes the monthly, "Foreign Affairs Record", a documentation of official pronouncements on subjects related to India's foreign policy.

PHOTO DIVISION

The Photo Division of the Ministry of Information and Broadcasting caters to the requirements of photographs for internal and external publicity. Its main function is to photographically document the growth and social change taking place in the country and provide visual support required in the activities of the other media units of the Ministry. Photographs are also supplied to other ministries and government departments and to the members of the public on payment.

The Division maintains a library of photographic negatives (around six lakhs in number) of great archival and historic importance pertaining to national and international events since independence and photographs of the country, its landscape and people taken over the years. The legend and reference of these negatives are maintained in a separate photo library under the Press Information Bureau.

The main office of the Photo Division is located in Delhi. It has regional offices at Madras, Calcutta and Bombay. The Division has well equipped dark room facilities and sophisticated cameras. In addition, it has a special colour laboratory with automatic processing and printing machines.

SONG AND DRAMA DIVISION

The Song and Drama Division of the Ministry of Information and Broadcasting, established in 1954, utilises live entertainment media to

make the masses aware of the various national programmes and objectives. It uses a wide range of stage forms like puppet shows, plays, dances, dramas, ballads, *Harikathas* and sound and light shows for this purpose. The programmes are organised through 41 departmental troupes and about 500 private parties registered with the Division. Several central and state agencies are also used for arranging programmes in the field. The Division presents various types of programmes for the masses, which include both rural and urban people, tribal people in interior-most areas and especially the armed forces personnel posted in the forward areas. The programmes create an awareness of the social, economic and democratic ideals cherished by the nation.

In 1969, the Division created Theatre Panosonic—a sound and light spectacle with live action by a large number of artists, which can be witnessed from different angles by thousands of people at a time. The Division has presented lives of great poets, viz., Subramania Bharati, Amir Khusro, Vidyapati and the epic story of Ram Charit Manas in this medium.

RESEARCH AND REFERENCE DIVISION

The Research and Reference Division of the Ministry of Information and Broadcasting collects basic information on various subjects, studies in depth problems of national significance and provides reference service to the media units of the Ministry of Information and Broadcasting and others. The Division also provides UNESCO and other well known international reference publications information about India. Besides, it studies trends in the mass communication media.

The Division has been maintaining a news index and a reference service. Items of long-term interest from "The Hindu" and "The Economic Times" as also articles from important periodicals are indexed. In addition, news items, articles and comments from the metropolitan and mofussil papers in English are clipped and classified.

The Division's regular services include 'Background to the News' and 'Reference Papers' on matters of topical interest. Biographical sketches of eminent persons in various fields are also prepared by the Division. The Division also compiles 'India—A Reference Annual' which is a standard work of reference and provides objective and authentic information on diverse aspects of national life and activities in India. A Mass Communication Annual to provide basic and up-to-date information and statistics on different media of mass communication in the country is being brought out by the Division from 1978.

A National Documentation Centre on Mass Communication was set up in 1976 as part of the Research and Reference Division with the broad object of collecting and disseminating information relating to mass communication studies and problems. The Centre provides documentation services on the different media of mass communication—press, films, broadcasting and audio-visual publicity.

During 1980, the Division brought out 30 back-grounders and research and reference papers on various subjects. The Documentation Centre brought out 50 papers under its various services like bibliography service, current awareness service, etc.

MASS COMMUNICATION TRAINING

Training in mass communication subjects is given by a number of institutions in the country. Among the universities which offer degree/diploma courses in journalism are the Universities of Banaras, Berhampur, Calcutta, Gauhati, Jabalpur, Madras, Marathwada, Mysore, Nagpur, Osmania, Pune, Punjab, Punjabi, Ravishanker and Shivaji. The Punjab Agricultural University at Ludhiana has M.Sc. course in journalism for science graduates and Bangalore University has B.Sc. and M.Sc. courses in communication.

(Staff Training (Programmes))

The Staff Training Institute (Programmes) of All India Radio imparts training to members of its staff in the planning and production of all types of programmes like spokenword, drama, music, radio reports, farm broadcasting, educational programmes, etc. Training is also given in programme administration, audience research and allied topics. The Institute at Delhi has two regional training centres at Hyderabad and Shillong.

The training programme comprises four-week basic courses as well as short workshop courses and seminars. Experts in different fields, inside as well as outside the department, are invited to speak to the trainees and initiate discussions. Foreign trainees deputed by broadcasting organisations, also benefit from these programmes.

Staff Training (Technical)

The Staff Training Institute (Technical) has the responsibility of maintenance training of engineers of All India Radio and Television. The Institute runs a basic orientation course and an induction course for the in-service personnel and also conducts specialised courses on various subjects like tape recording, frequency modulation, semiconductor technology, digital technology and T.V. receiver maintenance. Trainees from foreign countries are accommodated in these courses under the Colombo Plan and other programmes.

Film and Television Training

The Film and Television Institute of India (FTII), set up at Pune in 1960 by the Ministry of Information and Broadcasting, offers training in the art and craft of film and television. FTII became an autonomous body in October 1974.

The Institute offers three-year diploma course for specialisation in motion picture photography and film editing, one and a half year course in sound recording and sound engineering and one year post-diploma course in film direction.

Television training has so far been an in service training for the employees of Doordarshan. The sixteenth basic TV production and technical operations training course was attended by 47 officers of Doordarshan, while the 17th Course was attended by 43 officers. A TV orientation course for the sound recording and sound engineering students of the film wing was also conducted during 1980.

Indian Institute of Mass Communication

The Indian Institute of Mass Communication was set up by the Ministry of Information and Broadcasting in August 1965 as a centre for training and research in mass communication. It was made autonomous in January 1966. The Institute's instruction courses cover developmental journalism, the print media, audio-visual aids and films, radio and television, oral communication, traditional media, advertising, campaign planning and communication research.

The regular training courses offered at this Institute are : (i) a nine-month post graduate diploma course in journalism for graduates from Indian universities and foreign scholars with journalists background from developing countries; (ii) an eight-month diploma course in news agency journalism for persons from news agencies of non-aligned countries, to enhance their professional skills and background and (iii) six-week refresher courses (normally six in a year) for middle-level personnel of the central and state information departments and of public sector undertakings. Other training courses are workshop-oriented newswriting, photography and traditional media of communication.

In 1980, the Institute organised two workshops—one on rural communication and the other on public relations. One special course was organised for Hindi journalists and an introductory course in communication in Hindi.

In addition to training courses the Institute organises or collaborates with other institutions in organising seminars on professional problems concerning the media. A three-day seminar was organised on "communication and the traditional media" in collaboration with the Film and Television Institute of India, Pune. On behalf of Unesco, the Institute organised a three-day conference on the report of the international commission for the study of communication problems (Mac Bride Commission's Report) in which delegates from several foreign countries participated.

The Institute brings out a number of books and pamphlets on different aspects of mass communication and also conducts research on national and international communication problems.

Evaluation

The Directorate of Evaluation in the Ministry of Information and Broadcasting organises studies on particular aspects of the performance of the media units through the Indian Institute of Mass Communication and other bodies. During 1980, the evaluation department of the Institute completed five studies entrusted by the Directorate and one study entrusted by Uttar Pradesh Information Department.

ADVISORY COMMITTEE

An Advisory Committee was constituted by the Government in November 1980 to make recommendations from time to time regarding the re-structuring of the various media organisations under the Ministry of Information and Broadcasting and also how best they could function in a more professional and efficient manner. The 14-member Committee consisting of eminent mediemen was formed under the chairmanship of G. Parthasarathi. The terms of reference of the Advisory Committee are :

To advise the government on—

- (a) structural changes in the different media organisations under the Ministry and, if necessary, in the Ministry itself to bring about greater professional efficiency and improvement in the quality of performance of the media in response to wide-ranging national requirements and aspirations;
- (b) measures to be taken at the national, state, regional and local levels to associate the people more directly in the planning and initiation of innovative programmes in the different media organs under the jurisdiction of the Ministry, through creative participation and inter-communication.

- tion so as to enrich their cultural identity and promote national integration;
- (c) determining priorities in different areas of media development and providing adequate infrastructural support and strengthening the capacity of the media to reach out to all sections of the people;
 - (d) the mode and mechanics of coordination amongst various media groups under the Ministry of I&B and of cooperation between the central and state media organisations with a view to maximising the impact of communication support for developmental efforts; and
 - (e) any other related matter referred to the Committee by the government for advice.

11 BASIC ECONOMIC DATA

India is rich in natural resources and man-power. These resources have, however, not been exploited fully and are capable of greater utilisation. The Indian economy is still predominantly agricultural, about half of the country's national income is derived from agriculture and allied activities which absorb nearly three-fourths of its working force. Since 1947, the aim has been to diversify the economy by accelerating the pace of industrial development, increase agricultural productivity and achieve all-round progress under the national plans.

NATIONAL AND PER CAPITA INCOMES National income in India is defined as the sum of incomes accruing to the factors of production supplied by normal residents of the country before deduction of direct taxes. It is identically equal to net national product at factor cost. Table 11.1 gives the estimates of national and per capita incomes at current and 1970-71 prices, as compiled by the Central Statistical Organisation.

Table 11.2 gives national product and related aggregates at current prices. Table 11.3 gives the performance of public sector. Table 11.4 gives the private final consumption expenditure, net domestic savings and capital formation since 1970-71. Table 11.5 gives distribution of net domestic product between compensation of employees, mixed income of self-employed, interest, rent and profits and dividends.

TABLE 11.1
NATIONAL AND PER CAPITA INCOMES AT FACTOR COST

Item	1970-71	1976-77	1977-78	1978-79	1979-80 ¹
Net national product at factor cost (Rs crores)					
at current prices	34,235	67,362	76,109	81,228	90,173
at 1970-71 prices	34,235	40,606	44,090	46,636	44,328
Per capita net national product (Rs)					
at current prices	632.8	1,093.5	1,210.0	1,267.2	1,378.8
at 1970-71 prices	632.8	659.2	701.0	727.6	677.8
Index number of net national product with 1970-71 as base					
at current prices	100.0	196.8	222.3	237.3	263.4
at 1970-71 prices	100.0	118.6	128.8	136.2	129.5
Index number of per capita net national product with 1970-71 as base					
at current prices	100.0	172.8	191.2	200.3	217.9
at 1970-71 prices	100.0	104.2	110.8	115.0	107.1
Gross national product at factor cost (Rs crores)					
at current prices	36,452	71,826	81,105	86,927	96,850
at 1970-71 prices	36,452	43,234	46,884	49,646	47,407
Index number of gross national product with 1970-71 as base					
at current prices	100.0	197.0	222.5	238.5	265.7
at 1970-71 prices	100.0	118.6	128.6	136.2	130.1

¹Quick estimates.

TABLE 11.2

NATIONAL PRODUCT AND RELATED AGGREGATES

(at current prices)

Item	1970-71	1974-75	1975-76	1976-77	1977-78	1978-79
(a) Gross national product at factor cost	36,452	62,972	66,193	71,826	81,105	86,927
(b) Add indirect taxes less subsidies	3,527	6,332	7,714	8,533	8,887	10,576
(c) Gross national product at market prices (a+b)	39,979	69,304	73,907	80,359	89,992	97,503
(d) Less consumption of fixed capital	2,217	3,526	4,054	4,464	4,996	5,699
(e) Net national product at market prices (c-d)	37,762	65,778	69,853	75,895	84,996	91,804
(f) Less net factor income from abroad	(-)-284	(-)-291	(-)-255	(-)-235	(-)-221	(-)-201
(g) Net domestic product at market prices (e-f)	38,046	66,069	70,108	76,130	85,217	92,005
(h) Net domestic product at factor cost	34,519	59,737	62,394	67,597	76,330	81,429
(i) Less income from entrepreneurship and property accruing to government administrative departments	574	805	997	1,598	1,796	1,825
(j) Less saving of non-departmental enterprises	70	419	222	634	368	509
(k) Income from domestic product accruing to private sector (h-i-j)	33,875	58,513	61,175	65,365	74,166	79,096
(l) Add national debt interest	216	340	491	601	769	964
(m) Add net factor income from abroad	(-)-284	(-)-291	(-)-255	(-)-235	(-)-221	(-)-201
(n) Add current transfers from government administrative departments	578	1,150	1,350	1,547	1,762	1,981
(o) Add other current transfers from the rest of the world (net)	123	274	528	739	1,022	1,271
(p) Private income (k+l+m+n+o)	34,508	59,986	63,289	68,017	77,398	83,111
(q) Less saving of private corporate sector net of returned earnings of foreign companies	193	677	307	271	387	464
(r) Less corporation tax	370	709	862	984	1,221	1,251
(s) Personal income (p-q-r)	33,945	58,600	62,120	66,762	75,790	81,396
(t) Less direct taxes paid by households	721	1,259	1,781	1,792	1,657	1,798
(u) Less miscellaneous receipts of government administrative departments ¹	162	196	197	246	239	302
(v) Personal disposable income (s-t-u)	33,062	57,145	60,142	64,724	73,894	79,296

¹ Available data do not permit separation of fees, fines, etc., paid by producers and to that extent personal disposable income is under estimated.

TABLE 11.3
PERFORMANCE OF PUBLIC SECTOR

Item	(at current prices)								(Rs. crores)
	1970-71	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80 ¹	
Gross domestic product	36,736	53,772	63,263	66,448	72,061	81,326	87,128	97,051	
Public	5,456	7,954	10,231	12,218	14,281	15,634	17,281	20,032	
Private	31,280	45,818	53,032	54,230	57,780	65,692	69,847	77,019	
Share of public to total (per cent)	14.9	14.8	16.2	18.4	19.8	19.2	19.8	20.6	
Gross domestic saving	6,783	11,392	12,753	14,942	17,738	19,498	23,376	23,055	
Public	1,253	1,807	2,676	3,339	4,123	4,088	4,656	4,015	
Private	5,530	9,585	9,977	11,503	13,615	15,410	18,720	19,040	
Share of public to total (per cent)	18.5	15.9	21.1	22.5	23.2	21.0	19.9	17.4	
Gross domestic capital formation ²	7,344	11,352	14,509	16,415	17,740	18,440	22,624	24,970	
Public ³	2,773	4,814	5,664	7,677	8,508	7,408	9,999	11,718	
Private	4,571	6,538	8,845	8,738	9,232	11,032	12,625	13,252	
Share of public to total (per cent)	37.8	42.4	39.0	46.8	48.0	40.2	44.2	46.9	
Final consumption expenditure	33,639	48,033	58,184	60,154	62,781	71,660	77,390	84,667	
Public administration	3,801	5,100	6,143	7,351	8,206	8,667	9,500	10,976	
Private household and non-profit institutions	29,838	42,933	52,041	52,803	54,575	62,993	67,890	73,691	
Share of public to total (per cent)	11.3	10.6	10.6	12.2	13.1	12.1	12.3	13.0	

¹Quick estimates.²Unadjusted for errors and omissions.³Including net purchase of second-hand physical assets.

TABLE 11.4
PRIVATE CONSUMPTION, SAVING AND CAPITAL FORMATION

PRIVATE CONSUMPTION, SAVING AND CAPITAL FORMATION											
Year	Private final consumption expenditure (Rs. crores)		Per capita private final consumption expenditure Rs.		Net domestic saving (Rs. crores)	Rate of saving ¹ (per cent)	Net Domestic capital formation (Rs. crores)		Rate of capital formation (per cent)		
	at current prices	at 1970-71 prices	at current prices	at 1970-71 prices			at current prices	at 1970-71 prices			
1970-71	29,838	29,838	551.5	551.5	4,566	12.0	4,960	4,960	13.0		
1971-72	32,097	30,704	579.4	554.2	5,099	12.4	5,262	5,262	13.6		
1972-73	35,131	30,070	620.7	531.3	5,100	11.3	4,667	[4,667	11.9		
1973-74	42,933	30,880	741.5	533.3	8,369	15.0	6,629	6,629	15.7		
1974-75	52,041	31,143	880.6	527.0	9,127	13.8	5,850	5,850	14.8		
1975-76	52,803	33,394	874.2	552.9	10,788	15.4	5,917	5,917	15.2		
1976-77	54,575	33,466	886.0	543.3	13,274	17.4	6,534	6,534	15.7		
1977-78	62,993	36,649	1,001.5	582.7	14,502	17.0	6,989	6,989	15.3		
1978-79	67,890	38,429	1,059.1	599.5	17,677	19.2	17,422	8,680	19.0		
1979-80 ²	73,691	36,636	1,126.8	560.2	16,378	16.1	16,941	7,217	16.6		

¹As per cent of net domestic product at market prices.

² Quick estimates.

(Rs. crores)

TABLE 11.5

DISTRIBUTION OF
FACTOR INCOMES
AT CURRENT
PRICES

Item	1970- 71	1973- 74	1974- 75	1975- 76	1976- 77	1977- 78	1978- 79
(i) Compensation of employees .	13,363	17,818	21,350	24,354	26,518	9,398	32,294
(ii) Interest .	1,802	2,750	3,361	4,066	4,749	5,344	6,197
(iii) Rent .	1,748	2,135	2,287	2,639	2,936	3,230	3,563
(iv) Profit and dividends .	1,494	2,005	2,944	2,892	4,008	3,989	4,359
(v) Mixed income of self-employed ¹	116,112	26,041	29,795	28,443	29,386	34,369	35,016
(vi) Net domestic product .	34,519	50,749	59,737	62,394	67,597	76,300	81,429

¹Income of own account workers and profits and dividends of un-incorporated enterprises.EMPLOYMENT
AND UNEMP-
LOYMENT

For 1971 census, the population was divided into workers and non-workers. There were nine categories of workers, viz., (i) cultivators, (ii) agricultural labourers, (iii) livestock, forestry, fishing, etc. (iv) mining and quarrying, (v) manufacturing, processing, etc., (vi) construction, (vii) trade and commerce, (viii) transport, storage and communication, and (ix) other services. Non-workers were divided into the following seven categories; (i) those engaged in household duties, (ii) students, (iii) retired persons or rentiers, (iv) dependants, (v) beggars, (vi) those living in institutions, and (vii) other non-workers. Table 11.6 shows the number of workers and non-workers in rural and urban areas as on 1 April 1971.

(In crores)

TABLE 11.6

POPULATION
WORKERS BY
CATEGORIES AND
NON-WORKERS

	Rural	Urban	Total
Total population .	43.91	10.91	54.82
Workers .	14.85	3.20	18.05
(i) cultivators .	7.66	0.17	7.83
(ii) agricultural labourers .	4.56	0.19	4.75
(iii) livestock, forestry, fishing, etc. .	0.38	0.05	0.43
(iv) mining and quarrying .	0.06	0.03	0.09
(v) manufacturing, processing etc. .	0.82	0.89	1.71
(vi) construction .	0.11	0.11	0.22
(vii) trade and commerce .	0.36	0.64	1.0
(viii) transport, storage and communication .	0.12	0.32	0.44
(ix) Other services .	0.78	0.80	1.58
Non-workers .	29.06	7.71	36.77

Employment in
Organised Sector

The employment position in the entire country is not yet available for the inter-censal period. However, the data collected under Employment Market Information give an idea of employment in the organised sector covering the entire public sector and those establishments in the non-agricultural private sector employing 10 or more persons.

Employment in the organised sector as on 31 March of the years 1975 to 1979 has been shown in table 11.7.

The table also shows that during the Fifth Plan period 29.07 lakh more persons—24.99 lakhs in the public sector and 4.08 lakhs in the

private sector—got employment. The increase in employment, during the last year of the plan period, was 7.02 lakh jobs of which public sector alone provided for 5.43 lakhs and private sector 1.59 lakhs.

TABLE 11.7

EMPLOYMENT IN
ORGANISED
SECTOR

		(In lakhs)				
		March 1975	March 1976	March 1977	March 1978	March 1979
Public Sector :						
Central government		29.89	30.47	30.79	30.96	31.36
State government		47.68	49.39	51.07	54.01	56.41
Quasi-government		31.92	33.92	36.75	39.29	41.44
Local bodies		19.41	19.85	19.88	20.15	20.64
TOTAL :		128.90	133.63	138.49	144.41	149.84
Private sector (non-agricultural)						
Larger establishments	(employing 25 or more workers)	60.90	61.13	61.36	63.22	64.59
Smaller establishments	(employing 10—24 workers)	7.09	7.31	7.30	7.21	7.42
Total :		67.99	68.44	68.66	70.43	72.02
Grand Total :		196.89	202.07	207.15	214.84	221.86

Unemployment

A comparable series on the level of unemployment in the country is not yet available. However, the number of persons on the live register of employment exchanges gives an idea of the trend of unemployment subject to certain limitations. Employment exchanges cover mainly urban areas. Registration with the employment exchanges being voluntary, not all the unemployed register their names in the exchanges. Further, some of the registrants are already employed but have registered for seeking better employment. The number of job seekers on the live registers of employment exchanges increased from 34.23 lakhs as on 31 December 1969 to 143.34 lakhs as on 31 December 1979. Table 11.8 gives the occupational distribution of registrants with the employment exchanges as on 31 December 1979.

TABLE 11.8

APPLICATIONS ON
THE LIVE REGISTER
OF EMPLOYMENT
EXCHANGES

Occupational group	Number as on 31-12-1979 (‘000)	Percentage to total
Professional, technical and related workers	744.0	5.2
Administrative, executive and managerial workers	9.9	0.1
Clerical and related workers	673.2	4.7
Sales workers	3.5	—
Farmers, fishermen, hunters, loggers and related workers	72.7	0.5
Service workers	364.6	2.6
Production and related workers, transport equipment operators and labourers	1,321.8	9.2
Workers not classified by occupations		
(a) Below matric (including illiterates and others)	5,006.2	34.9
(b) Matric and above but below graduates	4,985.6	34.8
(c) Graduates and above	1,152.4	8.0
Total	14,333.9	100.0

NATIONAL SAMPLE SURVEY ORGANISATION

The National Sample Survey (NSS) was set up in 1950 with the aim of obtaining comprehensive and continuing information relating to social, economic, demographic, industrial and agricultural statistics through sample surveys on a countrywide basis. In 1970, a National Sample Survey Organisation (NSSO) was created and the National Sample Survey was made a part of the new organisation. The NSSO has four divisions, namely, (i) Survey, Design and Research, (ii) Field Operations, (iii) Data Processing, and (iv) Economic Analysis to conduct its sampling enquiries. The activities of NSSO are governed by a governing council. Five zonal training centres have been set up for imparting training to the technical staff of the field operation divisions.

The activities of NSSO cover the fields of socio-economic, industrial and agricultural statistics. The socio-economic surveys are carried out annually on different subjects in collaboration with the state statistical bureaux. The subject programme conforms to a well defined cycle of surveys extending over a period of ten years.

These include surveys on (i) demography, health and family welfare, (ii) assets debt and investment, (iii) land holdings and livestock enterprises to be repeated once in ten years, (iv) employment, rural labour and consumer expenditure, and (v) unorganised enterprises in non-agricultural sector to be repeated once in five years. Surveys on other subjects of interests to users are either dovetailed with one of the foregoing surveys or taken in a year open to other topics.

The Annual Survey of Industries, covering over 50,000 manufacturing establishments registered under the Factories Act, 1948, provides information on capital investment, quantity and value of the goods manufactured, value added by manufacture, employment and emoluments. The collection of data is made by NSSO while the data are tabulated and results published by the Central Statistical Organisation. Industrial statistics are obtained under the Collection of Statistics Act, 1953.

In the field of agricultural statistics, NSSO provides technical guidance to the states for the conduct of crop estimation surveys. A scheme for improvement of crop statistics has been in operation since 1973-74 to help locate areas of weakness and to take necessary remedial measures.

An idea of the scale of survey operations NSSO undertakes can be had from the fact that the socio-economic surveys in each annual round cover about two lakh house-holds spread over 9,000 sample villages and 5,000 sample urban blocks. The check of area and yield of crops are spread over 5,000 sample villages and 15,000 crop-cutting experiments. State governments participate in the socio-economic and agricultural surveys, canvassing a matching sample of the same size as the central sample; some states do even more. In respect of ASI too, some states collect data from non-census factories, not covered in a given year by the NSSO.

The current socio-economic round (35 in the series—July 1980—June 1981) is being devoted to the survey on social consumption and construction activities. The survey on social consumption would collect information to know to what extent different strata of society derive benefits from public expenditure on public health, education and public distribution services. Data on activities of educated persons useful for manpower planning would also be collected. A schedule providing information on amenities available to the surveyed villages

such as drinking water facilities, electricity, etc., would be canvassed. The survey on construction activity would cover pucca and semi-pucca building constructions and non-building constructions by both household and non-household sectors except those by the public sector and the private corporate sectors. Information would be collected on the main aspects of construction namely, its type, ownership, inputs, expenditure, etc. The survey would help in filling up the gaps in information pertaining to construction sector.

The NSSO, as a major fact finding body, occupies a unique position in the nation's statistical system. Over the years, it has enlarged and diversified the data base, specially, in areas which are vital for development planning.

The findings from the National Sample Surveys have been brought out in the form of individual reports, each covering a particular aspect for all the states. The NSSO has now a journal of its own, namely, '*Sarvekshana*' and the results are being published in the journal for individual states as and when they become available.

Prices

The index numbers of wholesale prices have been revised from base 1961-62=100 to 1970-71=100 and the old series were discontinued from April 1977.

In the revised classification, commodities are distributed under three major groups, namely (i) primary articles, (ii) fuel, power light and lubricants and (iii) manufactured products.

The first group has been further divided into three sub-groups namely, (i) food articles, (ii) non-food articles and (iii) minerals. The primary articles group is broadly comparable with the two groups of the old classification, viz., "Food Articles" and "Industrial raw-materials" with certain minor adjustments.

The third group "manufactured products" contains sub-groups under which semi-manufactured and manufactured products have been classified. In the old classification, the group manufacturers was divided into two sub-groups "intermediate products" and "finished products".

Table 11.9 gives the index numbers of wholesale prices for the period 1971-72 and from 1976-77 to 1979-80 and November 1979 and 1980 with revised base 1970-71 = 100.

(Base : 1960=100)

TABLE 11.10
CONSUMER PRICE
INDEX NUMBERS
FOR INDUSTRIAL
WORKERS

Year	Bombay	Ahme- dabad	Cal- cutta	Madras ¹	Kanpur	Delhi	All India	
							All items	Food
1969-70 .	175	169	172	160	182	185	177	193
1970-71 .	182	176	182	170	190	199	186	204
1971-72 .	190	181	187	182	196	211	192	205
1972-73 .	203	198	197	203	212	222	207	223
1973-74 .	233	245	228	229	251	265	250	279
1974-75 .	289	305	288	301	323	337	317	358
1975-76 .	300	293	287	314	299	333	313	342
1976-77 .	298	281	297	288	294	332	301	317
1977-78 .	318	310	320	311	330	358	324	345
1978-79 .	325	323	331	318	337	368	331	347
1979-80 .	359	348	351	350	357	389	360	373

¹Figures for the period up to January 1970 have been estimated from the old Consumer Price Index series for Madras city on base July 1935-June 1936=100. From February 1970 onwards, figures are from the Labour Bureau's New Series on base 1960=100.

TABLE 11.9

INDEX NUMBERS OF WHOLESALE PRICES

(Base : 1970-71 = 100)

Item	Weight	1971-72	1976-77	1977-78	1978-79	1979-80	Nov. 1979	Nov. 1980
I. Primary articles	416.67	100.9	167.2	183.8	181.15	206.5	210.1	243.3
Food articles	297.99	101.1	155.3	173.6	172.4	186.6	186.9	215.4
Non-food articles	106.21	98.6	167.4	178.0	170.4	194.6	198.8	220.8
Fibres	31.73	106.6	184.9	185.2	169.3	168.1	168.1	189.8
Oil seeds	42.01	89.9	150.8	183.5	158.9	185.7	192.7	236.1
Minerals	12.47	115.4	449.4	477.0	490.7	779.9	859.5	1,108.0
II. Fuel, power, light and lubricants	84.59	105.9	230.8	234.3	244.7	283.1	295.3	356.2
III. Manufactured products	498.74	109.5	175.2	179.2	179.5	215.8	219.5	253.9
Food products	133.22	118.4	189.1	184.3	157.0	214.8	214.0	296.2
Beverages, tobacco and tobacco products	27.08	106.80	168.2	171.2	178.2	186.6	186.0	214.1
Textiles	110.26	109.6	155.3	172.8	179.0	203.2	208.0	208.7
Paper and paper products	8.51	110.4	180.1	184.5	196.0	237.4	251.1	262.0
Leather and leather products	3.85	115.7	227.8	228.2	265.4	345.0	360.6	379.0
Rubber and rubber products	12.07	101.7	157.2	156.9	181.9	215.1	226.0	253.5
Chemical and chemical products	55.48	101.5	171.4	172.8	177.2	198.7	206.8	246.9
Non-metallic mineral products	14.15	109.3	191.0	194.6	213.7	249.5	260.9	281.1
Basic metals, alloys and metal products	59.74	104.7	190.1	193.8	211.2	251.9	251.9	269.5
Machinery and transport equipment	67.18	105.3	170.1	172.6	183.9	215.9	221.0	241.0
Miscellaneous products	7.20	102.5	166.0	179.4	187.8	209.8	209.0	233.4
IV. All commodities	1,000.00	105.6	176.6	185.8	185.8	217.6	222.0	258.2

Consumer Prices The all-India working class consumer price index on base 1949=100 has been replaced by a new series of consumer price index numbers for industrial workers on base 1960=100 with effect from August 1968. Table 11.10 shows the consumer price index numbers for industrial workers for the period 1969-70 to 1979-80 along with indices for some selected centres which are among the 50 centres covered and a weighed average of whose indices yield the All India Index.

Whereas in 1978-79, the all-India general index showed an increase of 7 points over that of the previous year, during 1979-80, the all-India general index rose by 29 points and the all-India food index by 26 points.

Table 11.11 gives the index numbers of consumer prices for urban non-manual employees for the period 1970-71 to 1979-80.

TABLE 11.11
CONSUMER PRICES
INDEX NUMBERS
FOR URBAN
NON-MANUAL
EMPLOYEES

(Base : 1960-100)					
Year	Bombay	Calcutta	Madras	Delhi/ New Delhi	All India
1970-71 . .	168	170	175	174	174
1971-72 . .	172	174	188	180	180
1972-73 . .	183	180	203	190	192
1973-74 . .	204	204	231	217	221
1975-76 . .	246	243	306	273	277
1976-77 . .	255	251	294	274	277
1977-78 . .	269	265	311	291	296
1978-79 . .	285	279	321	303	306
1979-80 . .	315	297	350	321	330

12 FINANCE

PUBLIC FINANCE

The Power to raise and disburse public funds has been divided under the Constitution between the Government of India and state governments. There are thus more than one budget and more than one public treasury in the country. The sources of revenue for the union and the states are, by and large, mutually exclusive, if shareable taxes between them are excluded.

The Constitution provides that (i) no tax can be levied or collected except by authority of law, (ii) no expenditure can be incurred from public funds except in the manner provided in the Constitution, and (iii) the executive authorities must spend public money **only** in the manner sanctioned by Parliament in the case of the **union** and by the state legislature in the case of a state.

All receipts and disbursements of the union government are kept under two separate headings, namely, the Consolidated Fund of India and the Public Account of India. All revenues received, loans raised and money received in repayment of loans by the union government go to form the Consolidated Fund. No money can be withdrawn from this Fund except under the authority of an Act of Parliament. All other receipts and disbursement, such as, deposits, service funds and remittances go into the Public Account which is not subject to the vote of Parliament. To meet unforeseen needs, not provided in the Annual Appropriation Act, a Contingency Fund of India has also been established under article 267(i) of the Constitution.

The Constitution also provides for the establishment of a Consolidated Fund, a Public Account and a Contingency Fund for each state.

The Railways, the largest public undertaking, have their own funds and accounts and their budget is presented separately to Parliament. The appropriations and disbursements under the railway budget are subject to the same form of parliamentary and audit control as other appropriations and disbursements.

Sources of Revenue

The main sources of union revenues are customs duties, union excise duties and the corporation and income taxes (excluding taxes on agricultural income). The revenue from the wealth tax accrues to the union. Since 1971-72, the value of agricultural property held by individuals and Hindu undivided families has also been brought under the purview of the Wealth Tax Act. However, the net proceeds of the wealth tax on agricultural property are passed on to the states as grants-in-aid. The Railways and Posts and Telegraphs also contribute to the general revenues of the union out of their net profits.

The main heads of revenue in the states are the taxes and duties levied by state governments, the share of taxes levied by the central government and grants received from the union. Land revenue, sales tax, state excise duties, registration and stamp duties and shares of income tax and union excise duties constitute more than four-fifths of the tax revenue and more than half of the total revenue receipts of the states. Property taxes and octroi and terminal taxes are the mainstay of local finance.

Transfer of
Resources

The devolution of resources from the union to the states is a salient feature of the system of federal finance in India. Apart from their share of taxes and duties, state governments receive statutory and other grants as well as loans for various development schemes and rehabilitation purposes. The total amount of resources transferred to the states during the Second Plan period was more than double of that during the First Plan period. It was nearly double again during the Third Plan and more than double in the Fourth Plan as shown in table 12.1.

TABLE 12.1
RESOURCES
TRANSFERRED
TO STATES

Period	Taxes and Duties	Grants	Loans ¹	Total	(Rs. crores)	
					Aggregate expendi- ture of state govts.	(4) as Percent- age of (5)
	1	2	3	4	5	6
First Plan	352.5	214.8	637.9	1,205.2	3,351.9	36.0
Second Plan	710.1	700.4	1,037.9	2,440.4	5,845.9	41.7
Third Plan	1,196.0	1,302.9	2,151.2	4,650.1	10,719.5	43.4
1966-67	372.6	413.1	638.5	1,424.2	3,063.9	46.5
1967-68	415.7	479.0	492.5	1,387.2	3,221.0	43.1
1968-69	491.0	507.2	321.8	1,320.0	3,627.3	36.4
1969-70	621.3	531.2	398.2	1,550.7	4,039.1	38.4
1970-71	755.3	576.0	350.5	1,681.8	4,469.1	37.6
1971-72	941.9	875.9	366.2	2,184.0	5,305.7	41.2
1972-73	1,066.6	926.4	851.2	2,844.2	6,475.8	43.9
1973-74	1,162.4	937.2	619.0	2,718.6	7,259.5	37.4
Fourth Plan						
period	4,547.5	3,846.7	2,585.1	10,979.3	27,549.2	39.9
1974-75	1,228.5	1,021.6	569.8	2,819.9	8,004.2	35.2
1975-76	1,599.1	1,218.5	532.6	3,350.2	9,662.6	34.7
1976-77	1,679.8	1,505.2	726.9	3,911.9	11,016.8	35.5
1977-78	1,805.8	1,838.1	1,120.8	4,764.7	12,414.0	38.4
1978-79 (RE)	1,981.0	2,475.6	2,290.1	6,746.7	14,928.8	45.2
1979-80(BE)	3,502.5	2,034.3	1,517.7	7,054.5	16,206.5	43.5

¹ Net of repayments RE=Revised estimates
BE=Budget estimates.

Finance
Commission

Under the Constitution, a Finance Commission is to be constituted every fifth year or at such earlier time as the President considers necessary to make recommendations to the President as to (i) the distribution between the union and the states of the net proceeds of taxes which are to be, or may be divided between them under the Constitution and the allocation between the states of the respective shares of such proceeds; (ii) the principles which should govern the grants-in-aid of the revenues of the states in need of such assistance out of the Consolidated Fund of India; and (iii) any other matter referred to the Commission by the President in the interest of sound finance. The recommendations of the Commission together with an explanatory memorandum as to the action taken thereon are laid before each House of Parliament. Seven Finance Commissions had been constituted since the commencement of the Constitution.

The Seventh Finance Commission, the latest, was constituted in June 1977. The Commission's recommendations cover a period of five years commencing from 1 April 1979. Besides, recommending devolution of taxes and duties and grant-in-aid to the states, (in need of assistance) the Commission, was asked to make an assessment of the non-plan capital gap of the states and suggest appropriate measures to deal with it. The Commission was also asked to review the policy and arrangements in regard to financing of relief expenditure by the

states affected by natural calamities. The Commission submitted its report in October 1978. All the recommendations of the Commission except those relating to grants-in-aid to compensate the loss in excise revenue consequent on the introduction of prohibition and conversion of outstanding small savings loans into "loans in perpetuity" have been accepted by the government. The Commission had raised the share of the states in income-tax pool from 80 to 85 per cent and doubled the share of the states in basic excise duties other than the duty on electricity. In the case of excise duty on electricity, the net proceeds were to be passed on to states from where they were collected. The Commission had recommended grants totalling Rs 1,173 crores during the period 1979—84 to eight states which were likely to have gap in their revenue account as per the Commission's assessment. In addition, the Commission had also recommended Rs 437 crores to 17 out of 22 states for upgradation of standards in certain sectors of administration like police, justice, revenue, district and tribal administration etc.

To enable the states to meet their non-plan capital gap, the Commission had recommended a scheme for relief in the repayment of outstanding central loans to the union government. It envisages write off of central loans to the extent of Rs 943 crores. The consolidation of outstanding central loans as on 31 March 1979 is expected to give a debt relief of Rs 2,156 crores to the states during the period 1979—84.

For financing relief expenditure, the Commission had made larger annual provisions in its re-assessment of the forecast on receipts and expenditure of the states. For drought relief expenditure in excess of the amount allowed by the Commission, the states are expected to make a contribution from their plan expenditure not exceeding 5 per cent. The requirement of states for drought relief expenditure over and above the annual amount permitted by the Commission and contribution of the states, is to be met by the central government by way of assistance, half as grant and half as loans. In case of natural calamities like floods, cyclones and others, the central government's relief assistance is to be made available as non-plan grant to the extent of 75 per cent of the total expenditure in excess of the annual amount provided in the Commission's assessment. The transfers under the Commission's award as per its estimates during the period 1979—84 would be of the order of Rs 23,063 crores.

Budgetary Position

Table 12.2 shows the budgetary position of the Government of India and table 12.3 gives the consolidated budgetary position of the states and union territories for selected years.

Annual Financial statement or Budget

An estimate of all anticipated revenue and expenditure of the union government for the ensuing financial year is laid before Parliament on the last working day of February every year. This is known as the 'Annual Financial Statement' or the 'Budget' and covers the central government's transactions of all kinds in and outside India occurring during the year in which the statement is prepared as well as the ensuing year or the Budget year as it is known.

The presentation of the Annual Financial Statement is followed by a general discussion on the budget in both the Houses of Parliament. The estimates of expenditure from the Consolidated Fund of India are then placed before the Lok Sabha in the form of 'Demands for Grants' ordinarily, a separate 'Demand' is made for each Ministry. All withdrawals of money from the Consolidated Fund are thereafter authorised

TABLE 12.2

BUDGETARY POSITION OF THE GOVERNMENT OF INDIA¹

(Rs. crores)

Major Head	1965-66	1970-71	1975-76	1976-77	1977-78	1978-79 (Revised)	1979-80 (Budget)
I. Revenue account							
A. Revenue	2,344.4	3,341.9	8,075.4	8,752.7	9,792.1	11,019.8	11,182.4
B. Expenditure	2,024.6	3,178.9	7,188.5	8,440.5	9,362.3	11,148.3	(10,749.5)
C. Surplus (+) or deficit (—)	+319.8	+163.0	+886.9	+312.2	+429.8	—128.5	11,396.5
							—213.9
							(—646.8)
I. Capital account							
A. Receipts ^{3 4}	1,646.3	2,524.2	4,697.3	5,572.8	5,588.5	7,218.3	6,564.9
B. Disbursements	2,138.9	2,972.0	5,950.2	6,013.7	6,951.3	9,235.3	7,823.3
C. Surplus((+) or deficit (—)	—492.6	—447.8	—7,262.9	—442.9	—1,362.8	—2,017.0	—1,168.4
III. Overall Surplus (+) or deficit (—) (IC—IIIC)							
Financed by	—172.8	—284.8	—366.0	—130.7	—933.0	—2,145.5	—2,382.2
							(—1,975.2)
A. Increase in (—) treasury bills ³	—218.3	—359.1	—845.6	+341.8	—3,350.7	+581.0	—1,382.1
B. Cash Balance decrease (—) or increase(+)	+45.5	+74.3	479.6	—472.5	+2,417.7	—2,726.5	—0.2
(i) opening balance	—2.0	+156.0	+317.4	+797.0	+359.7	+2,777.4	+50.9
(ii) closing balance	+43.5	+230.3	+797.0	+324.5	+2,777.4	+50.9	+50.7
C. Uncovered	—	—	—	—	—	—	—

¹The data from 1974-75 onwards given are not strictly comparable with those for earlier years due to changes in budgetary classification.

²Including effects of budget proposals and adjusted for the effects of tax concessions accounted on March 16 and April 24, 1979. Figures in brackets exclude the effects of additional resource mobilisation measures. ³Excluding treasury bill receipts. ⁴Excluding conversion of ad hoc treasury bills of Rs 50 crores in 1965-66, Rs. 75 crores in 1970-71 and Rs 100 crores in 1972-73, 1974-75, 1975-76, 1976-77 and 1977-78 into dated securities. ⁵Mostly sold to Reserve Bank.

Source : Reserve Bank of India Bulletin, July 1978.

FINANCE

TABLE 12-3

CONSOLIDATED BUDGETARY POSITION OF STATES AND UNION TERRITORIES

(Rs. crores)

Major head	1950-51	1960-61	1965-66	1975-76	1976-77	1977-78	1978-79 (Revised)	1979-80 (Budget)
I. Revenue account								
Revenue	375.8	1,041.4	1,867.1	7,474.8	9,037.0	9,930.6	11,444.4	13,202.9
Expenditure	373.8	1,016.2	1,901.2	6,521.9	7,940.2	8,911.4	10,676.5	11,765.0
Surplus(+) or deficit (—)	+2.0	+25.2	—34.1	+952.9	+1,096.8	+1,019.2	+767.9	+1,437.9
II. Capital account								
Receipts	112.6	427.8	928.6	1,055.6	2,884.5	3,198.0	4,599.3	3,605.6
Disbursements	99.2	452.0	982.5	2,091.0	3,931.7	4,446.6	5,225.6	5,181.8
Surplus(+) or deficit(—)	+13.4	—24.2	—53.9	—1,035.4	—1,047.2	—1,248.6	—626.3	—1,576.2
III. Overall surplus(+) or deficit (—)	+15.4	+1.0	—88.0	—82.5	+49.6	—229.4	+141.6	—138.3
Financed by :								
A. Ways and means advances from Reserve Bank of India (net)	—4.6	+3.2	+14.0	—32.3	—82.9	+167.7	—247.3	+138.1
B. Drawals from cash balances	—10.8	—4.2	+74.0	+114.8	+33.3	+61.7	+105.7	+2.0

by an Appropriation Act passed by Parliament every year. The tax proposals of the Budget are embodied in another bill which is passed as the 'Finance Act' of the year.

Estimates of receipts and expenditure are similarly presented by state governments to their legislatures before the beginning of the financial year and legislative sanction for expenditure is secured through similar procedure.

Audit

The Comptroller and Auditor General who is independent of the executive, audits the receipts and expenditure of the central and state governments and his reports on the accounts are submitted to the President/governor for having them laid before Parliament/legislature.

Budget Estimates 1980-81

The budget estimates for 1980-81 as presented to Parliament on 18 June 1980 placed expenditure on revenue account at Rs 15,966 crores including states' share of union excise duties, as compared to Rs 14,578 crores (revised) in 1979-80 and revenue at Rs 15,012 crores (including the unions' share of the proposed additional taxation amounting to Rs 227 crores) as compared to Rs 13,707 crores (revised) in the previous year, resulting in anticipated deficit of Rs 954 crores. After taking into account the capital transactions, the overall deficit amounts to Rs 1,445 crores (after allowing for the post-budget concessions).

Income Tax

Table 12.4 gives the incidence of income tax at selected levels of income of individuals at 1981-82 tax rates.

TABLE 12.4

INCIDENCE OF INCOME TAX AT SELECTED LEVELS

Income (Rs.)	Income-tax (including surcharge) at existing rates (Rs.)	Income-tax (including surcharge) at proposed rates (Rs.)	Difference (Rs.)
12,500	165	—	(—)165
13,000	330	—	(—)330
14,000	660	—	(—)660
15,000	990	—	(—)990
16,000	1,320	330	(—)990
17,000	1,551	660	(—)891
18,000	1,749	990	(—)759
19,000	1,947	1,320	(—)627
20,000	2,145	1,650	(—)495
21,000	2,420	1,980	(—)440
22,000	2,695	2,310	(—)385
23,000	2,970	2,640	(—)330
24,000	3,245	2,970	(—)275
25,000	3,520	3,300	(—)220
30,000	5,170	5,170	Nil
40,000	9,570	9,570	Nil
50,000	13,970	13,970	Nil
60,000	19,470	19,470	Nil
70,000	24,970	24,970	Nil
80,000	31,020	31,020	Nil
90,000	37,070	37,070	Nil
1,00,000	43,120	43,120	Nil
1,50,000	76,120	76,120	Nil
2,00,000	1,09,120	1,09,120	Nil
3,00,000	1,75,120	1,75,120	Nil
4,00,000	2,41,120	2,41,120	Nil
5,00,000	3,07,120	3,07,120	Nil

With a view to directly checking the expansion of demand by curtailing disposable income in the hands of certain classes of people the compulsory deposit scheme has been extended for another two years, i.e., for the assessment years 1980-81 and 1981-82.

Direct Taxation The number of persons paying direct tax, as on 31 March 1980, was 41.76 lakhs. Net collections from income tax and corporate tax in 1979-80 amounted to Rs 2,732 crores; from wealth tax Rs 64.43 crores, from gift tax Rs 6.83 crores and estate duty Rs 14.05 crores.

Taxation Laws (Amendment) Act 1975 The Taxation Laws (Amendment) Bill, 1973, which was introduced in Parliament in May 1973 to give effect to several recommendations made by the Direct Taxes Enquiry Committee (Wanchoo Committee), was enacted as the Taxation Laws (Amendment) Act, 1975. This Act has brought on the statute various provisions for preventing tax evasion and proliferation of black money. Deterrent punishments have been provided for tax evasion. In cases where tax evasion exceeds Rs 1 lakh or prosecution is for the second or subsequent offence, the maximum punishment prescribed is seven years' rigorous imprisonment. The discretion vested in courts to award monetary punishment as an alternative to imprisonment or to reduce the term of imprisonment less than the minimum period, has been taken away. The scope of tax fraud has also been extended to cover wilful attempts to evade tax or even payment thereof.

With a view to bringing about simplification and rationalisation of the direct tax laws, the government appointed a committee of experts known as the "Direct Tax Laws Committee" in June 1977. The Committee (Chokshi Committee) presented its interim report in December 1977 and the final report in October 1978. The recommendations of the Committee are being processed for implementation.

Special Legislation for confiscation of Smugglers' Properties

The Smugglers and Foreign Exchange Manipulators (forfeiture of property) Act, 1976 received the assent of the President on 25 January 1976. The objective of the Act is to combat the menace of smuggling and foreign exchange racketeering in the country. It seeks to forfeit the illegally acquired properties (movable and immovable) of the smugglers, foreign exchange manipulators and of their relatives and associates.

Under the Act, five competent authorities with their headquarters at Delhi, Madras, Bombay, Calcutta and Ahmedabad have been appointed for implementation of the Act. Up to 31 January 1981 these authorities issued 2,162 notices and the value of the properties forfeited was about Rs 8.14 crores.

PUBLIC DEBT

The outstanding public debt of the Government of India was estimated at Rs 34,738.21 crores at the end of 1979-80 and is estimated to be Rs 40,552.47 crores at the end of 1980-81. Table 12.5 gives an analysis of the public debt outstanding at the end of selected year since 1950-51. Table 12.6 shows the debt position of state governments whose total liability aggregated to Rs 21,033 crores.

MONEY SUPPLY AND CURRENCY

Money supply comprises currency with the public demand deposits with the banks including the Reserve Bank of India, withdrawable 'On demand'. The total supply of money with the public thus stood at Rs 2,422.9 crores at the end of 1979, of which currency with the public accounted for Rs 10,785 crores and deposit money Rs 13,444

TABLE 12.5

PUBLIC DEBT OF THE GOVERNMENT OF INDIA

(Rs. crores)

Major head	At the end of						
	1950-51	1960-61	1965-66	1977-78	1978-79 (Revised)	1979-80 (Revised)	1980-81 (Budget)
I. Debt raised in India							
(a) Permanent debt							
(i) Current loans	1,438.46	2,555.72	3,415.27	9,212.22	10,872.57	12,830.04	15,329.70
(ii) Compensation bonds	—	—	—	125.20 125.04 50.48	150.14	174.16	47.30
(iii) Prize bonds	—	15.63	11.35				
(iv) 15-year annuity certificates	—	3.45	3.78				
(v) Loans in course of repayment	6.49	22.73	33.72	50.48	47.30	47.30	47.30
TOTAL PERMANENT DEBT	1,444.95	2,597.53	3,464.12	9,387.90	11,048.09	13,027.48	15,551.16
(b) Floating debt							
(i) Treasury bills	358.02	1,106.29	1,611.82	8,618.83	8,037.83	10,007.30	11,646.30
(ii) Special floating loans	212.60	274.18	340.70	1,018.56	1,232.35	1,804.23	2,115.59
(iii) Treasury deposit receipts and other floating loans	6.73	—	—	—	—	—	—
TOTAL FLOATING DEBT	577.35	1,380.47	1,952.52	9,637.39	9,270.18	11,811.53	13,761.80
TOTAL DEBT RAISED IN INDIA	2,022.30	3,978.00	5,416.64	19,025.29	21,318.27	24,839.01	29,313.05
II. Debt raised outside India	32.03	760.96	2,590.62	8,984.74	9,373.26	9,899.20	11,239.42
TOTAL PUBLIC DEBT	2,054.33	4,738.96	8,007.26	28,010.03	29,691.53	34,738.21	40,552.47

TABLE 12.6

DEBT POSITION OF STATES
(Rs. crores)

Major head	As at the end of								
	1951-52	1965-66	1971-72	1974-75	1975-76	1976-77	1977-78	1978-79 (Revised)	1979-80 (Budget)
I. Public debt¹									
(i) Permanent debt	134	827	1,332	1,840	2,112	2,293	2,475	2,653	2,880
(ii) Floating debt ²	16	189	621	159	151	68	236	—	—
(iii) Loans from central government	241	4,110	6,732	9,148	9,681	10,408	11,529	13,819	15,336
(iv) Other debt ³	—	162	258	405	495	587	576	638	672
II. Unfunded debt⁴	58	231	627	993	1,142	1,343	1,568	1,853	2,145
TOTAL	449	5,519	9,570	12,545	13,581	14,699	16,384	18,963	21,033

¹Represents current and expired loans floated in the market and zamindari-jagirdari abolition bonds.

²Represents mainly ways and means advances from the Reserve Bank of India.

³Includes loans from the National Agricultural Credit (longterm operations) Fund of RBI, Khadi and Village Industries Commission, Employees' State Insurance Corporation, State Bank of India, etc.

⁴Includes state provident funds, postal insurance and life annuity funds, family pension fund, staff benefit fund and special loans consisting generally of endowments for specific purposes of a religious and charitable nature.

crores. In 1979, money supply registered an increase of Rs 3,291 crores as compared with that of 3,186 crores in 1978. Component-wise, both currency with the public and deposit money recorded increase of Rs 1,340 crores and Rs 1,951 crores respectively during 1979 as compared with the rise of Rs 1,035 crores and Rs 2,151 crores respectively in 1978. The trends in money supply and its components since 1970 are indicated in table 12.7.

During 1979, the expansion of money supply with the public at Rs 3,291 crores was higher than that of Rs 3,186 crores recorded during 1978. The higher growth of money supply during 1979 was brought about largely by a substantially larger increase of Rs 3,268 crores in net bank credit to government sector compared with the increase of Rs 1,990 crores in the previous year. The increase of Rs 4,510 crores in bank credit to commercial sector in 1979 was also higher than that of Rs 4,195 crores in 1978. The expansionary impact of these factors on money supply was partly off set by smaller increases in net foreign exchange assets of banking sector (Rs 518 crores compared with Rs 1,061 crores last year) and government's currency liabilities to the public Rs 7 crores compared with Rs 6 crores last year and a larger increase in non-monetary liabilities of banking sector, which is a contractionary factor in money supply, by Rs 4,998 crores compared with Rs 4,067 crores in the previous year.

Currency

During 1979, currency in circulation recorded an increase of Rs 1,412 crores (Rs 1,591 crores) as compared with Rs 1,220 crores in the previous year. From 1970 to 1979 currency in circulation expanded by Rs 7,254 crores or by 167.3 per cent.

The expansion of Rs 1,412 crores in currency in circulation during 1979 was entirely on account of increases of Rs 419 crores in bank notes and Rs 21 crores in small coins in circulation partly offset by a decline of Rs 28 crores in rupee coins in circulation (including one rupee notes). On the other hand in 1978, all the components banks notes, rupee coins (including one rupee notes) and small

(Rs. crores)

TABLE 12.7
MONEY SUPPLY
WITH PUBLIC

End of December	Currency with the public		Deposit money with the public		Money Supply with the public	
	Amount	Annual Variation	Amount	Annual Variation	Amount	Annual Variation
1970 . .	4,157	—	2,808	—	6,965	—
1971 . .	4,563	+406	3,350	+542	7,913	+948
1972 . .	4,907	+344	4,052	+702	8,959	+1,046
1973 . .	5,778	+871	4,716	+664	10,494	+1,535
1974 . .	6,138	+360	5,425	+709	11,563	+1,069
1975 . .	6,443	+305	6,210	+785	12,653	+1,090
1976 . .	7,318	+875	7,887	+1,677	15,205	+2,552
1977 . .	8,410	+1,092	9,342	+1,455	17,752	+2,547
1978 . .	9,445	+1,035	11,493	+2,151	20,938	+3,186
1979 ¹ .	10,785	+1,340	13,444	+1,951	24,229	+3,291

¹Provisional

Note : The data on money supply with the public for 1977, 1978 and 1979 are not comparable with the data for earlier years because (i) commencing from 5, August 1977, compilation of money supply data has been revised giving a wider coverage of the co-operative banking institutions and (ii) on various dates starting from January 1978, a few scheduled commercial banks have classified a larger proportion of their savings deposits as time liabilities and a lower proportion as demand liabilities.

coins in circulation had increased by Rs 1,214 crores, Rs 4 crores and Rs 2 crores respectively. At the end of 1979, bank notes, rupee coins (including one rupee notes) and small coins in circulation stood at Rs 11,003 crores, Rs 327 crores and Rs 261 crores respectively.

BANKING

The commercial banking system in India consisted of 149 scheduled¹ commercial banks and five non-scheduled commercial banks at the end of June 1980, the former accounting for 99.9 per cent of the aggregate banking business in the country. Of the 149 scheduled commercial banks, 102 are in the public sector. In terms of business, public sector banks occupy a dominating position, their share in the entire banking system being about 91 per cent.

Table 12.8 shows some important indicators in regard to progress of commercial banking in recent years.

Amongst the public sector banks, the State Bank is the biggest unit. Apart from the main State Bank, there are 7 other banks associated with it as associate banks. The State Bank and its associate banks account for roughly 31 per cent of the aggregate banking business in the country and 36 per cent of the business conducted by the public sector banks. The other 20 banks in the public sector are known as 'nationalised' banks, 14 of which came into the public sector on 19 July 1969 and six others were nationalised on 15 April 1980. The main objective of nationalisation was to use financial institutions as the instrument for promoting economic and social development in a more purposive manner. Ever since nationalisation there has been a rapid growth of the banking network.

The largest number of new branches opened in any year, prior to nationalisation, was 677 in 1968. The number of new branches opened in the years subsequent to nationalisation was 1,369 in 1969, 2,137 in 1970, 1,805 in 1971, 1,763 in 1972, 1,782 in 1973, 1,693 in 1974, 2,334 in 1975, 3,217 in 1976, 3,348 in 1977, 2,516 in 1978, 2,058 in 1979 and 1,549 upto September 1980.

As against 8,262 branches at the end of June 1969, the total number of commercial bank branches at the end of September 1980 was 33,103. The average population per branch for the country as a whole has been brought down from 64,000 in June 1969 to 17,000 by the end of September 1980.

In the selection of centres for opening new branches, there has been a deliberate emphasis on covering potential centres in rural and semi-urban areas, particularly, unbanked centres. The number of branches located in rural areas was 1,860 at the end of June 1969, rose to 15,612 in September 1980 accounting for 47 per cent of the total branch net work. The total number of rural branches of the public sector banks increased from 1,523 to 14,098 during the same period.

To meet the credit requirements of weaker sections, small and marginal farmers, landless labourers, artisans and small entrepreneurs, the regional rural banks were established. There are 87 such banks functioning in different parts of the country. As on 31 March 1980, they

¹According to a notification under the Reserve Bank's Act, banks which have not less than Rs 5 lakhs capital and reserve can alone be scheduled to the Reserve Bank

Branch
Expansion

Coverage of
Rural Centres

Regional
Rural Banks

TABLE 12.8
PROGRESS OF COMMERCIAL BANKING

Important Indicators	June 1969	June 1973	June 1975	June 1976	June 1977	June 1978	June 1979	June 1980
I	2	3	4	5	6	7	8	9
Number of commercial banks	39	83	83	100	126	128	136	154
(i) Scheduled Commercial Banks	73	74	74	92	119	122	131	149
(ii) Regional Rural Banks	—	—	—	19	47	48	56	74
(iii) Non-scheduled commercial banks	16	9	9	8	7	6	5	5
Number of offices in India	8,262	15,362	18,730	21,220	24,802	28,016	30,202	32,419
Population ¹ per office (in thousand)	64	37	32	29	25	23	21	20
Aggregate deposits of scheduled commercial banks (Rs crores)	4,646	9,165	12,545	15,178	18,903	23,312	28,671	33,283
Aggregate credit of scheduled commercial banks (Rs crores)	3,599	6,412	8,955	11,476	13,491	15,694	19,116	22,053
Per capita ¹ deposits of scheduled commercial banks (Rs)	88	160	210	249	305	369	447	511
Per capita ¹ credit of scheduled commercial banks (Rs)	68	112	150	188	217	249	298	339
Deposits as percentage of national income (at current prices) ²	15.5	21.4	19.0	23.3	27.1	31.9	33.7	36.1

¹Based on mid-year population figures estimated by the Registrar General, India.

²Relates to end-March.

had mobilised deposits of Rs 140.3 crores.

Lead Bank Scheme

The Lead Bank Scheme was evolved towards the end of 1969 to give concrete shape to the idea of 'area approach' in the development of banking. To enable the banks to assume the role of leadership in an effective and systematic manner, all the districts of the country, except Calcutta, Greater Bombay and Madras, and the union territories of Chandigarh and Delhi were allotted among the public sector banks and two selected private banks. Each of these banks is expected to provide leadership to the other banks and financial institutions located in the districts allotted to it.

The year 1974 witnessed the conclusion of the first phase of the Lead Bank Scheme with the completion of the surveys of all the districts covered under the scheme. District level coordination committees, organised under the Lead Bank Scheme to achieve greater coordination among all the financial institutions meet, at regular intervals.

Having completed the basic task of surveying their lead areas and establishing forums for achieving a greater degree of coordination, the lead banks have now started devoting greater attention to the formulation of suitable schemes for implementation in their lead districts.

Deposit Mobilisation

Deposits of all scheduled commercial banks stood at Rs 36,149 crores on 26 December 1980 as compared to Rs 5,275 crores at the end of June 1970. During 1980, the deposits rose by Rs 4,686 crores, a growth of 15 per cent. The deposits of public sector banks increased from Rs 4,083 crores at the end of December 1969 to Rs 32,844 crores as on 26 December 1980.

Deposit Insurance and Credit Guarantee Corporation

To provide a measure of protection to the small depositors, the Deposit Insurance Corporation was established on 1 January 1962 by an Act of Parliament. Every commercial bank in India and every eligible cooperative bank in any of the states and union territories to which the Deposit Insurance Corporation Scheme has been extended by the central government is registered as an insured bank. Insured banks are required to pay to the Corporation a premium at the existing rate of 4 paise per annum for every hundred rupees of their assessable deposits. The present limit of insurance cover is Rs 30,000 to a depositor in respect of deposits held by him in an insured bank. There were 162 insured commercial banks (including 84 regional rural banks) and 1,420 insured cooperative banks as on 31 December 1978.

The Credit Guarantee Corporation of India Limited was set up in January 1971 under the Companies Act, 1956 to operate a scheme of credit guarantee to encourage the banks to undertake financing of small borrowers on a much larger scale without excessive risks. The Corporation operated three types of guarantee schemes viz., (i) small loans guarantee scheme; (ii) small loans (financial corporation) guarantee scheme and (iii) service cooperative societies guarantee scheme.

In May 1978, the Credit Guarantee Corporation of India Limited was merged with the Deposit Insurance Corporation, by an Act of Parliament, in order to serve better and provide credit guarantee to the participating institutions. The undertaking has been renamed as the Deposit Insurance and Credit Guarantee Corporation.

Use of Banks' Resources Two main uses to which deposit resources of commercial banks deployed are (i) investment in government and other approved securities, and (ii) loans and advances commonly known as 'bank credit'.

Bank Credit Advances of scheduled commercial banks, which stood at Rs 3,616 crores on 31 December 1969, increased to Rs 23,766 crores by the end of 31 December 1980. Public sector banks' advances increased from Rs 3,003 crores to Rs 21,517 crores during the same period.

Export Credit Credit to export sector continues to enjoy a high priority in the scheme of credit deployment outlined by the Reserve Bank. Banks provide export credit at a maximum rate 11.0 per cent for stipulated period. Export Credit on deferred payment basis is extended at a maximum interest rate of 8 per cent per annum for the prescribed period. The quantum of outstanding export credit granted by the scheduled commercial banks was Rs 1,628 crores at the end of June 1980.

There has been further liberalisation in the operation of the export credit. The Reserve Bank has taken the following steps :

(i) Banks have been advised to consider granting suitable credit facilities to consultancy firms even where consultancy services alone are exported and to exporters who have to send their products abroad for exhibition before sale; (ii) to industries where a substantial part of output is meant for export or new potential for export could quickly be built up; (iii) in cases where exporter is not able to execute the original contract due to circumstances beyond his control; (iv) to provide pre-shipment credit to carpet exporters not only from the time finished goods are ready for export but also at earlier stages to cover the raw material and other costs incurred in the process of manufacture; and (v) to allow the benefit of concessional pre-shipment credit to be shared between the export house/agency having the contract and the sub-supplier.

With a view to streamlining and simplifying procedure relating to exports on deferred payment terms, general permission has been granted by the Bank to exporters to make offers and enter into negotiations for export of capital goods provided certain specific conditions are fulfilled in cases where—(i) contract value does not exceed Rs 50 lakhs (ii) the contract period does not exceed 5 years and (iii) IDBI assistance is not required. IDBI has been made the focal point for grant of approval for other deferred payment contracts. From 1 February 1976 the Bank has introduced a Duty Drawback Scheme under which banks would grant interest-free advances up to 90 days to exporters against their entitlements for duty drawbacks as provisionally certified by customs authorities.

Credit Authorisation Scheme

To ensure proper use of bank credit, the Credit Authorisation Scheme was introduced by the Reserve Bank of India in 1965. Under the scheme, all the scheduled commercial banks are required to obtain the Reserve Bank's prior authorisation before sanctioning and fresh credit limits (including commercial bill discounts but excluding letters of credit and guarantee limits) of Rs 2 crores or more in respect of private sector undertakings and Rs 3 crores or more for public sector undertakings to a single party or any limit that would take the total limit enjoyed by such party from the entire banking system (including co-operative sector) to Rs 2 to 3 crores as the case may be on secured or unsecured basis. The scheme also covers individuals term credit

limits exceeding Rs 25 lakhs as well, where the term of repayment exceeds three years, irrespective of the totality of credit limits available to the party from the entire banking system.

On a review of the working of the scheme, the Reserve Bank effected, in May 1978, certain modifications with a view to further streamlining the procedures, delegating more authority to the banks themselves, introducing greater flexibility and facilitating quick decisions. The scope of exemption from the Reserve Bank's prior authorisation was modified as under.

Whenever an application is made to the Reserve Bank of India for authorisation for higher limits, banks may release, pending authorisation, an amount up to Rs 25 lakhs as hitherto. If 10 per cent of the authorised working capital limit (i.e. excluding the categories of limits exempted from prior authorisation) exceeds Rs 25 lakhs, banks may allow up to that amount (i.e. 10 per cent) subject to an overall ceiling of Rs 50 lakhs; or banks may allow temporary excess drawings in the limits for short periods, or may allow temporary facilities for a maximum period of three months, without prior authorisation up to 10 per cent of the authorised working capital limits or Rs 50 lakhs, whichever is less.

The total facilities under these two heads by all the financing banks should not exceed Rs 50 lakhs. Such facilities sanctioned by banks other than temporary excess drawings for short periods should be immediately reported to the Reserve Bank of India.

Term loans up to Rs 50 lakhs from the entire banking system in a period of a year (July-June) to a borrower engaged in industries listed under high-priority category for investment in capital assets would not require prior authorisation, irrespective of whether the party is covered under the Credit Authorisation Scheme or not.

Term loans allowed on a *pari passu* basis with the Industrial Finance Corporation of India (IFCI) and/or the Industrial Credit and Investment Corporation of India Ltd. (ICICI), have been exempted from the requirements of prior authorisation, besides those to be allowed on a *pari passu* basis with the IDBI and the ARDC.

Banks were advised that all individual term loan proposals for amount exceeding Rs 50 lakhs should normally be made in consultation with the IDBI or other concerned term-lending institutions. If the IDBI or the IFCI or the ICICI participates in the term loans, prior authorisation would not be required, but, if there is no participation of any of the aforesaid terms-lending institutions, prior authorisation is required.

In cases where the share of the banking system in term loans and deferred payment guarantee facilities to be allowed for a project is more than Rs 25 crores, prior authorisation, therefore, would be required hereafter, though the term loans, etc., may be allowed in participation with the IDBI, the IFCI or the ICICI or the ARDC.

Advances to Priority Sectors

The extension of credit to small borrowers in the hitherto neglected sectors of the economy is one of the principal tasks assigned to the public sector banks. To achieve this objective the banks have drawn up schemes to extend credit to small borrowers in sectors like agriculture, small-scale industry, road transport, retail and small business, which traditionally had very little share in the credit extended by the banks. The number of borrowal accounts with the public sector banks for these categories of borrowers increased from 8.47 lakhs to 116.45 lakhs

between June 1970 and June 1980. The amount outstanding during the same period increased from Rs 747 crores to Rs 6,852 crores. The share of these sectors in the total credit at the end of June 1980 was 34.5 per cent against 20.9 per cent in June 1970.

Table 12.9 shows the achievements of the public sector banks in stepping up the flow of credit to various priority sectors.

TABLE 12.9
CREDIT FLOW
TO PRIORITY
SECTORS

Sector	No. of borrowal Accounts (In lakhs)		Amount outstanding (Rs. crores)	
	June 1969	June 1980	June 1969	June ¹ 1980
Agriculture (excluding plantation				
(i) Direct finance	1.60	72.89	40.21	2,284.86
(ii) Indirect finance	0.04	10.85	122.12	723.50
Small scale industry ²	0.51	7.01	251.07	2,618.95
Road and water transport operators	0.02	2.60	5.49	517.35
Retail trade and small business	0.33	15.38	19.37	544.79
Professional and self-employed	0.08	7.47	1.90	153.46
Education	0.01	0.28	0.80	8.84

¹Provisional
²Number of units

Banks continued to ensure that small and marginal farmers and agricultural labourers are not denied bank finance for their genuine credit requirements for want of adequate security and their credit needs are met on priority basis.

Bank Finance for
Agriculture

The scheme of financing primary agricultural credit societies by commercial banks has been extended to more states and is in operation in Andhra Pradesh, Assam, Bihar, Haryana, Jammu & Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Tripura, Uttar Pradesh, West Bengal and Manipur. Twenty four commercial banks through their 735-branches have taken over 3,151 societies.

The total outstanding advances to agriculture by public sector banks have shown a further increasing trend from Rs 2,221.78 crores at the end of June 1979 with 68.71 lakh accounts to Rs 2,583 crores with 79.04 lakh accounts by the end of December 1979. This constituted 14.6 per cent of their aggregate outstanding as against 14 per cent at the end of June 1979.

The public sector banks continued to concentrate on intensive coverage of villages. The public sector banks had adopted 84,332 villages and financed 25.01 lakh farmers to the tune of Rs 579.44 crores as on 31 December 1979.

It has been decided that the banks should aim at raising the proportion of the advances to priority sectors to 40 per cent by 1985 and ensure that within this overall target a significant proportion should be allocated to beneficiaries under the 20-Point Programme. This would mean that the share of agricultural sector should be over 16 per cent of total advances by 1985. Banks would have to ensure that 50 per cent of the direct advances in the sphere of agriculture are towards the small and marginal farmers and agricultural labourers.

Small Scale Industries	Small-scale industries constitute an important segment of the priority sector. The outstanding advances of public sector banks to these industries in June 1980 which stood at Rs 2,619 crores covering 6.01 lakh borrowing units.
Co-ordination among Public Sector Banks	For better co-ordination among public sector banks and administrative agencies of the state governments, six regional consultative committees, consisting of representatives of state governments and union territories and chairmen of nationalised banks have been constituted. These committees review banking developments in their respective regions. Similarly, state-level co-ordination committees have been set up.
Differential Interest Rate Scheme	To help the weaker sections of society, a scheme of differential interest rate has been in operation since 1972. Under the scheme public sector banks make funds available to certain categories of borrowers in industrially backward districts at a concessional rate of 4 per cent for their productive endeavours. As at the end of March 1980, these banks had assisted 21.79 lakh borrowers and the amount outstanding was estimated to be at Rs 149.45 crores.
Foreign Branches of Indian Banks	One hundred and twenty one branches of 11 Indian commercial banks were operating in foreign countries at the end of 1979, the largest concentration being the UK, USA, Fiji, Kenya, Hong Kong, Mauritius and Singapore. These banks mainly cater to the demands of trade and commerce between India and these countries and also meet the needs of the sizeable population of Indian origin in these countries.
RESERVE BANK	Prior to the establishment of the Reserve Bank of India in 1935, the Imperial Bank of India, though primarily a commercial bank, performed certain central banking functions and in particular acted as a banker to Government. The Reserve Bank was originally constituted as a shareholders' institution with a share capital of Rs 5.00 crores. The capital has remained unchanged to this day. The entire share capital was, in the beginning, owned by private shareholders with the exception of shares of the nominal value of Rs 2.2 lakhs, which were allotted to the central government. Subsequently the entire share capital of the Bank was acquired by the central government against compensation to the shareholders and from 1 January 1949, it became a state-owned institution.
Functions	The main function of the Bank is to regulate the issue of Bank notes and keep reserves for securing monetary stability. The Bank is the sole authority for the issue of currency in India other than one rupee coins/notes and subsidiary coins. As the agent of the central government, it undertakes the distribution of one rupee notes and coins as well as small coins issued by the Government of India. The Bank acts as banker to Government of India, state governments, commercial banks and to some of the financial institutions including state co-operative banks. It formulates and administers monetary policy in order to influence the level or aggregate demand for goods and services by varying the cost and availability of credit. The Reserve Bank also plays an important role in the maintenance

of the exchange value of the rupee, and acts as an agent of the government in respect of India's membership of the International Monetary Fund. The Bank now performs a variety of developmental and promotional functions.

The general superintendence and direction of the Bank's affairs is vested in the Central Board of Directors. The Board comprises of the Governor, Deputy Governors and other Directors (including one official) nominated by the Government of India. The Governor is the chairman of the Board and chief executive authority of the Bank.

CORPORATE SECTOR

The number of joint stock companies—both government and non-government, incorporated under the Companies Act 1956 and at work in India as on 31 March 1980 was 57,305. Of these, 55,780 companies were limited by shares, 78 were companies with unlimited liability and 1,447 were limited by guarantee and were associations not for profit. The 55,780 companies limited by shares had a paid-up capital of Rs 13,411.61 crores comprising 8,578 public limited and 47,202 private limited companies with a paid-up capital of Rs 3,725.1 crores and Rs 9,686.5 crores respectively.

Table 12.10 shows the number and paid-up capital of companies (government and non-government taken together) functioning in 1951, 1961, 1971 and 1974 onwards and up to 31 March 1980.

Table 12.11 shows the region/statewise distribution of companies limited by shares at work, and of the new companies registered, on the basis of the location of their registered offices during 1979-80.

The companies registered during the year 1979-80 were 5,037. Of these 4,986 were companies limited by shares, 16 were companies with unlimited liability and 35 were companies limited by guarantee and associations not for profit. Of the companies limited by shares 401 were public limited and 4,585 were private limited having an authorised capital of Rs 274.1 crores and Rs 325.2 crores respectively.

Capital Issues and Projects Costs

During 1979-80, 96 non-government non-financial public limited companies issued capital through prospectuses amounting to Rs 62.24 crores. Of this Rs 54.97 crores were issued in the form of equity share capital, Rs 0.27 crores as preference shares and Rs 7.00 crores as bonds. As compared to this 80 companies had issued capital amounting to Rs 57.87 crores—Rs 54.59 crores in the form of equity shares Rs 1.28 crores as preference shares and Rs 2.0 crores as bonds during 1978-79. One company each issued debentures during the year 1977-78 and 1978-79. There was thus, an increase in the amount of capital issued to the tune of Rs 4.37 crores during 1979-80. Out of the total capital issued during 1979-80, Rs 48.36 crores (77.7 per cent) was offered to the public, of which Rs 37.61 crores (77.8 per cent) was underwritten. The total project cost of these companies issuing capital during 1979-80 was estimated to be about Rs 232.83 crores as compared to Rs 233.17 crores in the preceding year.

TABLE 12.10

COMPANIES AT WORK

FINANCE

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As on 31 March	Companies limited by shares						Companies with unlimited liability (number)	Companies limited by guarantee and association not for profit (number)
	Public		Private		Total			
	Number	Paid-up Capital (Rs. crores)	Number	Paid-up Capital (Rs. crores)	Number	Paid-up Capital (Rs. crores)		
1951	12,568	566.5	15,964	208.9	28,532	775.4	—	1,213
1961	6,702	948.2	19,447	870.3	26,149	1,818.5	—	1,169
1971	6,690	2,091.5	23,632	2,422.2	30,322	4,513.7	—	1,220
1974	7,218	2,572.4	30,267	5,058.6	37,485	7,631.0	1	1,294
1975	7,485	2,799.8	33,099	5,401.0	40,584	8,200.8	4	1,326
1976 ¹	7,708	3,004.6	35,557	6,437.0	43,265	9,441.6	15	1,337
1977 ¹	7,858	3,146.3	37,774	7,401.9	45,632	10,548.2	43	1,356
1978 ¹	8,025	3,374.9	39,930	8,649.4	47,955	12,024.3	47	1,381
1979 ¹	8,214	3,540.7	42,837	8,337.4	51,051	11,878.1	62	1,414
1980 ¹	8,578	3,725.1	47,202	9,686.5	55,780	13,411.6	78	1,447

¹Provisional.

TABLE 12.11
REGION/STATEWISE DISTRIBUTION OF COMPANIES LIMITED BY SHARES AT WORK

Region/State	Companies at work as on 31-3-1980		Companies registered during April 79 to March 80	
	Number	Paid-up capital (Rs. crores)	Number	Authorised capital (Rs. crores)
1	2	3	4	5
<i>Eastern Region</i>				
Assam	678	190.9	29	7.6
Arunachal Pradesh	9	0.4	1	—
Meghalaya	71	11.6	3	0.4
Mizoram	2	0.1	—	—
Bihar	904	491.6	54	7.3
Manipur	13	2.7	2	1.0
Nagaland	21	38.3	5	0.4
Orissa	467	96.3	56	28.0
Tripura	13	3.4	1	—
West Bengal	12,922	1,937.3	679	60.8
Andaman & Nicobar Islands	5	1.7	—	—
TOTAL	15,105	2,764.3	830	105.5
<i>Northern Region</i>				
Haryana	446	112.1	27	5.0
Himachal Pradesh	147	27.6	11	0.7
Jammu & Kashmir	178	38.0	23	1.0
Punjab	1,423	51.3	142	9.1
Rajasthan	971	154.1	137	28.2
Uttar Pradesh	2,654	341.6	231	28.1
Chandigarh	263	61.9	43	3.4
Delhi	6,780	5,304.5	746	60.8
TOTAL	12,862	6,091.1	1,360	136.3

Southern Region

Andhra Pradesh	.	.	.	.	.	1,837	456.0	224	31.5
Karnataka	.	.	.	.	.	2,596	671.3	283	31.5
Kerala	.	.	.	.	.	1,629	356.1	131	12.9
Tamil Nadu	.	.	.	.	.	4,797	747.3	419	99.6
Pondicherry	.	.	.	.	.	95	5.1	8	0.9
TOTAL	.	.	.	.	.	10,954	2,235.8	1,065	176.1

Western Region

Madhya Pradesh	.	.	.	.	.	814	121.4	103	8.5
Maharashtra	.	.	.	.	.	12,824	1,607.4	1,257	94.8
Goa, Daman & Diu	.	.	.	.	.	337	52.9	23	1.3
Gujarat	.	.	.	.	.	2,874	538.6	345	76.7
Dadra & Nagar Haveli	.	.	.	.	.	10	0.1	3	0.1
TOTAL	.	.	.	.	.	16,859	2,320.4	1,731	181.4
GRAND TOTAL	.	.	.	.	.	55,780	13,411.6	4,986	599.3

Companies
Ceased to Work

The number of companies which went into liquidation or were struck off under section 560 (5) of the Companies Act, 1956 or otherwise became defunct or ceased to work during 1979-80 was 257. Comparative figures for earlier years were : 1965-66—915, 1969-70—523, 1970-71—472, 1971-72—373, 1972-73—550, 1973-74—315, 1974-75—272, 1975-76—302, 1976-77—278, 1977-78—344 and 1978-79—383.

Government
Companies

Table 12.12 gives the number and paid-up capital of government companies at work in 1962, 1965 and 1972 onwards and up to 31 March 1980.

TABLE 12.12

GOVERNMENT
COMPANIES
AT WORK

As on 31 March		Public		Private		Total	
		No.	Paid-up capital (Rs. crores)	No.	Paid-up capital (Rs. crores)	No.	Paid-up capital (Rs. crores)
1962	. .	41	23.5	113	606.2	154	629.7
1965	. .	54	51.5	129	1,062.8	183	1,114.3
1972	. .	107	156.0	245	2,213.1	352	2,369.1
1973	. .	126	219.0	264	2,779.4	390	2,998.4
1974	. .	147	249.1	303	4,396.0	450	4,645.1
1975	. .	210	315.4	363	4,650.6	573	4,966.0
1976	. .	243	468.5	408	5,653.7	651	6,122.2
1977	. .	273	591.9	428	6,582.6	701	7,174.5
1978	. .	300	725.5	445	7,802.1	745	8,527.6
1979	. .	321	852.7	461	7,462.5	782	8,315.2
1980	. .	353	973.6	472	8,779.7	825	9,753.3

Foreign
Companies

On 31 March 1980, there were 315 foreign companies in India as defined under section 591 of Companies Act, 1956 (*i.e.* joint stock companies incorporated abroad but having a place of business in India). The distribution of these companies, according to their country of origin, as on 31 March 1980 was U.K. 152; USA 57; Japan 19, France 7, Canada 6, Bangladesh, Pakistan, West Germany, Switzerland, Netherland and Italy 5 each; Australia and Sweden 4 each; Belgium, Yugoslavia, Hong Kong, Nepal and Uganda 3 each; Singapore, Bahama Islands, Thailand and Lebanon 2 each; and Panama, Kenya, Kuwait, Liberia, Luxembourg, Tanzania, Iran, Aden, Malaysia, Bermuda, Greece, Austria, Denmark and United Arab Emirate 1 each.

INSURANCE

Life Insurance

The Life Insurance Corporation of India came into existence on 1 September, 1956. The Corporation had 5 zonal offices at Bombay, Delhi, Kanpur, Calcutta and Madras; 41 divisional offices, 738 branch offices, 4 sub-offices and 100 development centres in India on 31 March 1980.

Business by LIC

During 1979-80, LIC issued 21 lakh new policies assuring Rs 2,744 crores. Its group schemes business amounted to Rs 6,137.46 crores during the same period. It has revised its Premium rates from 1 April 1980.

**Total Income
and Life Fund**

On 31 March 1980 the total income of the Corporation after deduction of income tax at source amounted to Rs 1,297.78 crores of which the premium income accounted for Rs 875.37 crores. The Life Fund stood at Rs 5,818.09 crores on 31 March 1980.

Investment policy

The investment pattern of the Corporation continues to be governed by the statutory provisions of section 27A of the Insurance Act, 1938. The government recently reviewed the pattern of investments with special reference to the Corporation's contribution to (i) socially desirable objectives, (ii) region-wise distribution and (iii) investment in private corporate sector.

The LIC has to invest, besides investing 25 per cent in central government and another 25 per cent in state governments and other approved securities, at least 25 per cent of the net additions to its controlled Fund in socially oriented sectors, that is, Public Corporate/DYH Sectors. The total investments of the LIC in public sector, co-operative sector and private sector including joint sector amounted to Rs 3,915 crores, Rs 602 crores and Rs 770 crores respectively on 31 March 1980.

The Era Sezhiyan Committee, appointed in May 1979 to go into the functioning of the LIC in all major aspects had submitted its report in October 1980.

**GENERAL
INSURANCE**

The process of nationalisation of general insurance business, which was initiated with the take-over on 13 May 1971 of the management of the undertakings of Indian and foreign insurers, was completed on 1 January 1973. On that day the shares of Indian insurance companies and the undertakings of other insurers, namely, mutual companies, co-operative societies, the General Insurance Department of the Life Insurance Corporation and foreign insurers, were acquired under the General Insurance Business (Nationalisation) Act, 1972. The law provides for payment of amounts totalling Rs 38.05 crores for the acquisition of these shares and undertakings.

In pursuance of the Insurance Business (Nationalisation) Act, the General Insurance Corporation of India was registered as a government company on 22 November 1972 for the purpose of superintending, controlling and carrying on general insurance business. The authorised capital of the Corporation is Rs 75 crores.

On 1 January 1973, the Indian insurance companies became subsidiaries of the Corporation and the undertakings of the remaining insurers were transferred to one or other of these companies. On 1 January 1974, all the nationalised general insurance companies were merged into four subsidiaries of the Corporation. The General Insurance Corporation and its subsidiaries have the exclusive privilege of carrying on general insurance business in India. However, some state governments (Gujarat, Karnataka, Kerala and Maharashtra) continue to carry on their existing lines of insurance business in respect of the properties belonging to them and their undertakings, semi-government bodies and boards and also to undertakings in which the state governments have substantial financial interest.

The direct business transacted by the GIC is confined to aviation insurance relating to Air India, Indian Airlines, Hindustan Aeronautics Ltd., and crop insurance on an experimental basis.

While GIC, whose registered office is at Bombay, has no branch office but its four subsidiaries, namely, National Insurance Company Ltd., Calcutta; the New India Insurance Company Ltd., Bombay; the Oriental Fire and General Insurance Company Ltd., New Delhi and United India Insurance Company Ltd., Madras; function through their regional/area offices—21; divisional offices—352; and branch offices—805, all over India. They also operate in 29 foreign countries.

The gross direct premium of GIC and its four subsidiaries for the year ended 31 December 1979, amounted to Rs 414.69 crores (Rs 387.68 crores in India and Rs 27.01 crores outside India). The total assets of the GIC and its subsidiaries as on 31 December 1979 stood at Rs 1,245.32 crores.

Investment Policy It is governed by statute as well as government guidelines. Out of the fresh annual accruals to the investible funds of the General Insurance Corporation, 25 per cent are required to be invested in central government securities; 10 per cent in state government securities, other approved bonds and debentures issued by various public undertakings; 35 per cent as loans to state governments, Housing and Urban Development Corporation Ltd., for housing and loans for fire services to state governments and the remaining 30 per cent in market investments.

The total investments as on 31 December 1979 stood at Rs 781.30 crores.

Crop Insurance The Crop Insurance Schemes operated by GIC, are on an experimental basis. Presently crop insurance has been undertaken on a limited basis in Gujarat, Maharashtra, Andhra Pradesh and Tamil Nadu. The crops covered are different varieties of cotton, groundnut and paddy.

Agricultural Pump-set Insurance A new scheme-called Agricultural Pump-set Insurance comprehensive cover against break-down, burglary, theft, fire and lightning at a very nominal premium has been introduced. Up to June 1980 about 23,304 pump-sets were insured resulting in a premium of Rs 10.2 lakhs.

Cattle Insurance Cattle insurance business is transacted directly by all the four subsidiaries of GIC. An agreement among the companies provides for uniform premium rates policy terms and conditions and procedures. The agreement came into force on 1 April 1976. During 1979 about 32.3 lakh cattle were insured resulting in a premium of Rs 9.48 crores.

13 PLANNING

Planning in India derives its objectives and social premises from the Directive Principles of State Policy set forth in the Constitution. The public and private sectors of the economy are viewed as complementary. The private sector covers not only organised industry but also small-scale industries, agriculture, trade and a great deal of activity in housing and construction and other fields. Individual effort and private initiative are considered both necessary and desirable, the policy being to assist development on the basis of voluntary co-operation to the utmost extent. Economic planning also envisages a growing public sector with massive investments in basic and heavy industries.

The Government of India appointed a Planning Commission in 1950 to prepare a blueprint of development, taking an overall view of the needs and resources of the country. The composition of the Commission as on 10 August 1981 was as follows :

Smt. Indira Gandhi	Prime Minister and Chairman
S. B. Chavan	Minister of Planning & Deputy Chairman
Dr. M. S. Swaminathan	Member
Mohammad Fazal	Member
Dr. Manmohan Singh	Member-Secretary

THE FIRST FIVE PLANS

bjectives

The First Five Year Plan (1951-52 to 1955-56) had a two-fold objective to correct the disequilibrium in the economy caused by the Second World War and partition of the country and to initiate simultaneously a process of all-round balanced development which would ensure a rising national income and a steady improvement in the living standards over a period of time. Since the country had to import foodgrains on a large scale in 1951 and there were inflationary pressures in the economy, the Plan accorded the highest priority to agriculture, including irrigation and power projects. About 44.6 per cent of the total outlay of Rs 2,069 crores in the public sector (later raised to Rs 2,378 crores) was allotted for their development. The Plan also aimed at increasing the rate of investment from 5 per cent to about 7 per cent of the national income.

In 1954, Parliament declared that the broad objective of economic policy should be to achieve a 'socialistic pattern of society' under which the basic criteria for determining the lines of advance would be social gain and greater equality in incomes and wealth and not private profit. The Second Five Year Plan (1956-57 to 1960-61), therefore, sought to promote a pattern of development which would ultimately lead to the establishment of a socialistic pattern of society in India. In particular, it stressed that the benefits of economic development should accrue more to the relatively less privileged sections of society and there should be a progressive reduction in the concentration of incomes, wealth and economic power.

The main aims of the Plan were : (i) an increase of 25 per cent in the national income; (ii) rapid industrialisation with particular emphasis on the development of basic and heavy industries; (iii) large

expansion of employment opportunities; and (iv) reduction of inequalities in income and wealth and a more even distribution of economic power. The Plan also aimed at increasing the rate of investment from about 7 per cent of the national income to 11 per cent by 1960-61. The Plan laid special stress on industrialisation—increased production of iron and steel, heavy chemicals, including nitrogenous fertilizers and development of heavy engineering and machine building industry.

The Third Five Year Plan (1961-62 to 1965-66) aimed at securing a marked advance towards self-sustaining growth. Its immediate objectives were to : (i) secure an increase in the national income of over 5 per cent per annum, and at the same time ensure a pattern of investment which could sustain this rate of growth during subsequent plan periods; (ii) achieve self-sufficiency in foodgrains and increase agricultural production to meet the requirements of industry and exports; (iii) expand basic industries like steel, chemicals, fuel and power and to establish machine-building capacity, so that the requirements of further industrialisation could be met within a period of ten years or so mainly from the country's own resources; (iv) utilise fully the man-power resources of the country and ensure a substantial expansion in employment opportunities; and (v) establish progressively greater equality of opportunity and bring about reduction in disparities of income and wealth and a more even distribution of economic power. The national income was to increase by about 30 per cent from Rs 14,500 crores in 1960-61 to about Rs 19,000 crores by 1965-66 (at 1960-61 prices) and per capita income by about 17 per cent from Rs 330 to Rs 385 during the same period.

The situation created by the Indo-Pakistan conflict, two successive years of severe drought, devaluation of the currency, general rise in prices and erosion of resources available for plan purposes delayed finalisation of the Fourth Five Year Plan. Instead between 1966 and 1969, three Annual Plans were formulated within the framework of the Draft Outline of the Fourth Plan. They took into account the conditions prevailing at that time. The state of the economy and the non-availability of financial resources for plan purposes kept down the size of development outlay during this period.

The Fourth Plan (1969-74) aimed at accelerating the tempo of development in conditions of stability and at reducing fluctuations in agricultural production as well as the impact of uncertainties of foreign aid. It aimed at raising the standard of living of the people through programmes which at the same time were designed to promote equality and social justice. The Plan laid particular emphasis on improving the condition of the less privileged and weaker sections of the society especially through the provision of employment and education. Efforts were also directed towards reduction of concentration and a wider diffusion of wealth, income and economic power.

The Plan aimed at increasing the net domestic product at 1968-69 factor cost from Rs 29,071 crores in 1969-70 to Rs 38,306 crores in 1973-74. In terms of 1960-61 prices, this implied an increase from Rs 17,351 crores in 1968-69 to Rs 22,862 crores in 1973-74. The average annual compound rate of growth envisaged was 5.7 per cent.

The Fifth Five Year Plan was formulated at a time when the economy was facing severe inflationary pressures. The major objective of the Plan were to achieve self-reliance and to adopt measures for raising the consumption standards of the people living below the

poverty line. The Plan also gave high priority to bringing inflation under control and to achieve stability in the economic situation. The Fifth Five Year Plan targeted an annual growth rate of 5.5 per cent in national income. Four Annual Plans pertaining to the Fifth Five Year Plan period have been completed. It was subsequently decided to end the Fifth Five Year Plan with the close of the Annual Plan 1977-78 and to initiate work for a new plan for the next five years with new priorities and programmes.

The Sixth Plan has been formulated after taking into account the achievements and shortcomings of the past three decades of planning. Removal of poverty is the foremost objective of the Plan even though it is recognised that the task of this magnitude cannot be accomplished in a short period of five years.

The strategy adopted for this Plan consists essentially in moving simultaneously towards strengthening the infrastructure for both agriculture and industry so as to create conditions for an accelerated growth in investments, output and exports and provide through special programmes designed for the purpose, increased opportunities for employment, especially in the rural areas and the unorganised sector and meet the minimum basic needs of the people. Stress is laid on dealing with inter-related problems, through a systems approach rather than in separate compartments; on greater management-efficiency and intensive monitoring in all sectors and active involvement of the people in formulating specific schemes of development at the local level and securing their speedy and effective implementation.

The Sixth Five Year Plan (1980-85), envisages a total public sector plan outlay of Rs 97,500 crores. It aims at a growth rate of 5.2 per cent per annum in gross domestic product and of 3.3 per cent per annum in per capita income.

The public sector outlay as planned in the First, Second and Third Plans was Rs 2,378 crores, Rs 4,600 crores and Rs 7,500 crores while the actual expenditure was Rs 1,960 crores, Rs 4,672 crores and Rs 8,577 crores respectively. The investment by the private sector in the First, Second and Third Plans was Rs 1,800 crores, Rs 3,100 crores and Rs 4,190 crores respectively. The total public sector outlay during the three Annual Plans was Rs 6,665 crores. The Fourth Plan outlay envisaged originally was Rs 24,882 crores, consisting the public sector outlay of Rs 15,902 crores. The actual public sector expenditure during the Fourth Plan was estimated at Rs 15,779 crores. The final Fifth Plan envisaged an outlay of Rs 66,353 crores, of which the public sector outlay was Rs 39,322 crores and the expected private investment was Rs 27,049 crores. The public sector expenditure during the first four years of the fifth plan was Rs 28,653 crores and the anticipated expenditure for 1978-79 was of the order of Rs 11,444 crores. With reordering of investment priorities, the plan for 1979-80 envisaged a public sector outlay of Rs 12,550 crores. Table 13.1 shows the progress of Plan expenditure in the public sector from 1974-1979 and outlay for 1979-80 and 1980-81.

During the First Plan, owing largely to increase in agricultural production, the national income went up by 18 per cent as against the target of 12 per cent. The increase in the Second Plan was 20 per cent as against the target of 25 per cent. In the Third Plan, national income (revised series) at 1960-61 prices rose by 20 per cent in the first four years but declined by 5.7 per cent in the last year. During

Outlay and
Investment

Achievements

TABLE 13.1

PROGRESS OF PLAN EXPENDITURE : CENTRE, STATES AND UNION TERRITORIES

(Rs crores)

S. No.	Head of Development	Fifth Plan					1978-79 (Anticipated)	1979-80 (Outlay)	1980-81 (Outlay)
		Fifth Plan Outlay (1974-79)	1974-75 (Actuals)	1975-76 (Actuals)	1976-77 (Actuals)	1977-78 (Actuals)			
1.	Agricultural and allied programmes	4,766	545.11	679.96	928.26	1,259.79	1,815.71	1,815.22	2,273.25
2.	Irrigation and flood control	3,434	428.58	548.67	766.54	972.01	1,197.15	1,260.05	1,411.35
3.	Power	7,016	928.61	1,236.15	1,513.99	1,699.58	2,112.87	2,395.99	2,746.88
4.	Village and small industries	510	53.66	72.79	102.32	146.62	235.55	289.48	286.27
5.	Industry and minerals	9,691	1,102.18	1,624.51	2,069.63	2,091.90	2,241.07	2,547.10	3,216.00
6.	Transport and communications	6,917	1,078.34	1,230.77	1,308.17	1,469.85	1,742.83	2,135.61	2,531.75
7.	Education	1,285	140.20	191.98	258.00	312.88	424.42	273.77	391.82
8.	Science and technology	436	49.12	69.71	80.27	86.29	100.57	110.67	116.70
9.	Health	682	80.65	110.95	142.44	191.28	246.68	268.18	316.80
10.	Family welfare	497	62.05	80.61	148.26	93.34	107.55	116.19	140.00
11.	Water supply and sanitation	971	137.04	154.50	202.81	260.59	362.51	429.52	528.54
12.	Housing and urban development	1,189	139.60	168.72	224.61	270.94	345.44	301.80	405.50
13.	Welfare of backward classes	327	48.25	58.62	57.88	68.29	106.44	89.65	124.52
14.	Social welfare	86	12.24	12.40	13.88	18.37	31.44	27.16	40.78
15.	Nutrition	116	12.23	14.65	16.73	20.53	34.78	27.99	46.70
16.	Labour and labour welfare	949	4.01	5.51	8.84	11.83	16.70	21.69	124.821
17.	Others	—	76.48	110.40	148.11	126.63	163.51	267.56	148.19
18.	Hill and tribal areas	450	23.00	39.00	75.00	99.00	126.32	125.00	94.762
19.	North eastern council	—	5.00	7.00	16.00	26.51	32.78	47.00	64.40
20.	Special assistance for scheduled castes	—	—	—	—	—	—	—	100.00
TOTAL		39,322	4,928.35	6,416.90	8,081.74	9,226.23	11,444.32	12,549.63	15,109.03

¹Includes provision for employment programmes.²A sum of Rs 43.95 crores in respect of U. P. and Tamil Nadu is included under respective heads of developments.

the three Annual Plans 1966-67 to 1968-69 there was modest increase in the national income. In the initial years of the Fourth Plan, the growth rate in national and per capita income was quite satisfactory. In the later part of the Plan there was slackening in the growth rate. As against the projected overall rate of growth of 5.7 per cent per annum during the Fourth Plan, the realised rate of growth is estimated at 3.4 per cent in 1969-74. The growth rate in national income achieved during the Fifth Plan is estimated at 5.2 per cent as against the target of 4.4 per cent.

The index of agricultural production with triennium ending 1961-62 as base, rose from 84.4 at the end of the First Plan to 102.6 at the end of the Second Plan. In the Third Plan the performance of agriculture was not satisfactory. Widespread droughts in 1965-67 slowed down the rate of growth and led to increased imports of food and other items. The index of agricultural production receded to 95.8 in 1965-66. Subsequent years recorded substantial improvement and the index number reached 133.3 in 1973-74. However, the year 1974-75 was again a bad one for agriculture when the index declined by 4.7 points to 28.6. In 1975-76 the position improved greatly and the index number of agricultural production touched 148.6 points. It fell by 10.4 points to 137.9 in 76-77 and rose to 157.9 and 163.3 in 1977-78 and 1979-80 respectively.

Net irrigated area increased from 2.08 crore hectares in 1950-51 to 2.27 crore hectares at the end of the First Plan, 2.46 crore hectares at the end of the Second Plan, 2.63 crore hectares at the end of the Third Plan and 2.90 crore hectares in 1968-69. By the end of the Fourth Plan the net irrigated area was 3.25 crore hectares and by 1978-79 the figure is estimated at 3.667 crore hectares.

Power development during the last three decades has been significant. Successive plans with large outlays on power development have added substantial generating capacity and a basic transmission and distribution system has been developed. The total installed generating capacity and a basic transmission and distribution system has been developed. The total installed generating capacity which was only 2,300 mw in 1950 increased to over 31,025 mw in 1979-80 and in addition of about 1,856 mw is anticipated during 1980-81.

Large investments in the industrial and mineral sectors, particularly from the beginning of the Second Plan, have brought about a significant transformation in the industrial scene. There was a rapid and almost continuous growth in industrial production during the first three plan periods. Industrial production which increased at an average rate of 7 per cent in the first decade of planning (1950-51 to 1960-61) recorded an increase of around 9 per cent per annum during the next four years, i.e., 1961-62 to 1964-65. The performance since then, however, has been uneven and substantially below the earlier achievements and projected expectations. The growth declined to 5.3 per cent in 1965-66, was almost stagnant in the subsequent two years, witnessed a spurt to 7.4 per cent in 1969-70 and hovered around 3 to 4 per cent over the next five years. A significant improvement took place in 1976-77 when the index of industrial production showed a growth rate of around 9.5 per cent. However, on the whole, the average annual growth rate was no more than 4 per cent during the decade 1965-75, and about 6 per cent during the period 1974-75 to 1978-79. The average industrial growth rate from 1950-51 to 1978-79 has been 6.1 per cent.

The educational system has recorded, over the years, a phenomenal growth. At the end of 1975-76, the number of Educational Institutions increased to 6.42 lakhs from 2.31 lakhs in 1950-51, the corresponding increase in enrolment was from 2.73 crores to 9.53 crores. School enrolment upto the middle stage (classes I-VIII) in 1978-79 was 8.66 crores. The additional enrolment in elementary education during 1973-79 was 1.13 crores; 73 lakhs in classes I-V and 40 lakhs in classes VI-VIII, and the levels of enrolment reached were 82 per cent in the age group 6-11, 37 per cent in age group 11-14 and 66 per cent in age group 6-14.

14 AGRICULTURE

AGRICULTURE

The agricultural sector contributes nearly one-half of the national income, provides livelihood to about three-fourths of the population, supplies the bulk of wage goods required by the non-agricultural sector and raw materials for a large section of industry. It also provides a substantial portion of the country's exports. Transport, marketing, processing and other aspects of agricultural production and utilization have also a strong bearing on the national economy.

Land Utilization Land utilization statistics are available for 30.41 crore hectares or 92.5 per cent of the total geographical area of 32.88 crore hectares.

Table 14.1 gives details of land utilization in India for 1974-75, 1975-76, 1976-77 and 1977-78.

TABLE 14.1
LAND
UTILIZATION

	(crore hectares)			
	1974-75 ¹	1975-76 ¹	1976-77 ¹	1977-1978 ¹
Total geographical area	32.88	32.88	32.88	32.88
Total reporting area for land utilization	30.42	30.43	30.41	30.49
1. Forest	6.59	6.66	6.68	6.71
2. Not available for cultivation (i) area put to non-agriculture uses	1.71	1.74	1.75	1.76
(ii) Barren and uncultivable lands	2.36	2.21	2.20	2.14
Total	4.07	3.95	3.95	3.90
3. Other uncultivated excluding fallow lands (i) Permanent pastures and grazing lands	1.29	1.26	1.25	1.2
(ii) Land under crops and groves	0.41	0.40	0.40	0.4
(iii) Cultivable waste	1.67	1.74	1.71	1.6
Total	3.37	3.40	3.36	3.2
4. Fallow lands (i) Current fallows	1.62	1.25	1.43	1.30
(ii) Others	0.93	0.95	0.97	0.98
Total	2.55	2.20	2.40	2.28
5. Net area sown	13.84	14.22	14.02	14.26
Area sown more than once	2.58	2.88	2.68	2.97
Total Cropped Area	16.42	17.10	16.70	17.23
Net irrigated area	3.37	3.44	3.51	3.66
Gross irrigated area	4.17	4.31	4.35	4.59

¹ Provisional

Agricultural
Census

The first agricultural census was conducted on a complete enumeration basis with 1970-71 as the reference year. It provided very useful data on the structure of agricultural holdings and their main characteristics. Another agricultural census was conducted with 1976-77 (July 1976 to June 1977) as the reference year. The scope of this census was enlarged by including 'input survey' under which data on extent of use of various fertilizers, manures, pesticides and availability of livestock, agricultural machinery and implements, were collected through sample enquiries.

State-wise bulletins giving district-wise data on distribution of number and area of operational holdings in 1976-77 compared with those in 1970-71 have already been issued. The data indicate an increase of 15 per cent in the number of operational holdings in the country (from 70.5 to 81 million) while the operated area (162 million hectares) has remained almost constant. However, a positive shift in the operated area from large holdings to small holdings was noticed in 1976-77 Census. As such, the average size of the holding has declined from 2.30 hectares in 1970-71 to 2.00 hectares in 1976-77.

Now the next agricultural census is planned with agricultural year 1980-81 as the reference period on complete enumeration basis in land records of states and through sample survey in others. Input data would be collected with 1981-82 as the reference year through sample survey in all the States and union territories. Preparatory work, such as setting up of Census Cells in the states, finalising schedules and instructions etc., is in progress.

PRINCIPAL
CROPS AND
AREA

The two outstanding features of agricultural production are the wide variety of crops and the preponderance of food over non-food crops.

Table 14.2 shows the area under major crops during 1950-51, 1960-61, 1970-71, 1977-78, 1978-79 and 1979-80.

TABLE 14.2
AREA UNDER
PRINCIPAL
CROPS

(‘000 hectares)						
Crops	1950-51	1960-61	1970-71	1977-78	1978-79 ¹	1979-80 ²
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Rice . .	30,810	34,128	37,592	40,283	40,480	38,980
Jowar . .	15,571	18,412	17,374	16,318	16,140	16,450
Bajra . .	9,023	11,469	12,193	11,104	11,390	10,600
Maize . .	3,159	4,407	5,852	5,683	5,760	5,750
Ragi . .	2,203	2,515	2,472	2,600	2,710	2,580
Small millets .	4,605	4,955	4,783	4,574	4,400	4,090
Wheat . .	9,746	12,927	18,241	21,456	22,640	21,960
Barley . .	3,113	3,205	2,555	2,001	1,830	1,750
TOTAL CEREALS	78,230	92,018	1,01,782	1,04,018	1,05,350	1,02,160
Gram . .	7,570	9,276	7,839	7,974	7,710	6,830
Gur . .	2,181	2,433	2,655	2,626	2,640	2,670
Other pulses .	9,340	11,854	12,040	12,897	13,310	12,250
TOTAL FOODGRAINS	97,321	1,15,581	1,24,316	1,27,515	1,29,010	1,23,910

1	2	3	4	5	6	7
Sugarcane .	1,707	2,415	2,615	151	3,087.8	2,666.1
Black pepper .	80	103	120	112	84.57	84.91
Chillies .	592	667	783	791	826.0	826.3
Groundnut .	4,494	6,443	7,326	7,029	7,433.3	7,238.2
Castor seeds .	555	466	439	380	446.9	437.5
Sesamum .	2,204	2,169	2,433	2,384	2,389.1	2,384.8
Rapeseed and Mustard .	2,071	2,883	3,323	2,389	3,543.5	3,474.7
Linseed .	1,403	1,789	1,897	3,584	2,991.5	1,640.5
Cotton .	5,882	7,610	7,605	2,010	8,119.4	8,077.5
Jute .	571	629	749	7,866	884.4	842.4
Mesta .	N.A.	274	330	797	380.2	384.9

¹Revised estimates.²Final estimates.

N.A.—Not available.

('000 tonnes)

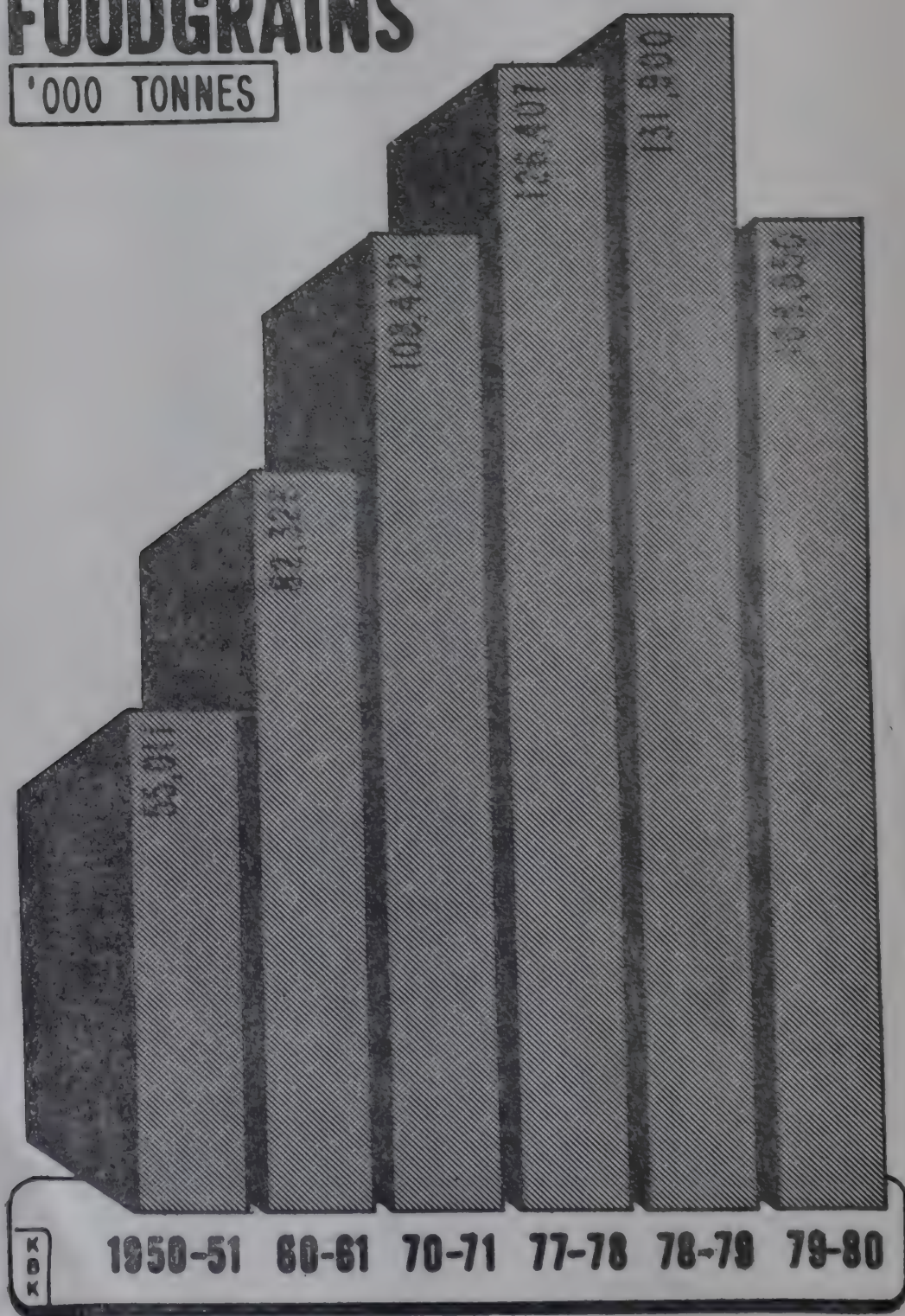
TABLE 14.3
PRODUCTION OF
PRINCIPAL
CROPS

Crops	1950-51 ¹	1960-61 ¹	1970-71 ¹	1977-78 ¹	1978-79 ²	1979-80 ³
Rice (cleaned) .	22,058	34,600	42,225	52,670	53,770	42,190
Jowar .	6,250	9,899	8,105	12,064	11,440	11,320
Bajra .	2,680	3,286	8,029	4,730	5,570	4,030
Maize .	2,357	4,115	7,486	5,973	6,200	5,580
Ragi .	1,353	1,876	2,155	2,866	3,200	2,700
Small millets .	1,776	2,010	1,988	2,070	1,890	1,480
Wheat .	6,822	10,995	23,832	31,749	35,510	31,560
Barley .	2,518	2,811	2,784	2,311	2,140	1,620
TOTAL CEREALS	45,814	69,592	96,604	1,14,434	1,19,720	1,00,480
Gram .	3,823	6,256	5,199	5,410	5,740	3,280
Tur .	1,813	2,097	1,883	1,930	1,890	1,740
Other pulses .	3,561	4,381	4,736	4,633	4,550	3,350
TOTAL FOODGRAINS	55,011	82,326	1,08,422	1,26,407	1,31,900	1,08,850
Sugarcane(Cane)	70,490	14,080	26,368	1,76,966	15,734.0	13,330.2
Black pepper .	20	28	26	26	21.50	21.98
Chillies (Dry) .	358	426	520	543	565.7	510.9
Groundnut .	3,319	4,698	6,111	6,083	6,208.2	5,771.8
(Nuts in shell)						
Castorseed .	107	109	136	217	229.4	232.7
Sesamum .	422	320	562	520	514.1	370.7
Rapeseed and mustard .	768	1,347	1,976	1,650	1,860.1	1,433.1
Linseed .	364	395	474	527	535.1	269.7
Cotton (Lint) ⁵ (⁰⁰⁰ bales)	3,039	5,550	4,763	7,243	7,957.8	7,697.6
Jute (Dry fibre) ⁴ (⁰⁰⁰ bales)	3,497	4,136	4,938	5,361	6,470.3	6,120.4
Mesta (Dry fibre) (⁰⁰⁰ bales)	659	1,113	1,255	1,793	1,863.3	1,908.3

¹Adjusted²Revised estimates³Final estimate⁴180 kg each⁵170 kg. each.

PRODUCTION OF FOODGRAINS

'000 TONNES



PLAN
EXPENDITURE

The present government on assuming office in January, 1980 decided to have a new Five Year Plan to implement its policies and programmes and fulfil its pledges made to the people. Necessary exercises were initiated to formulate a new Five Year Plan for 1980-85. A draft Sixth Plan (1980-85) which was approved by the National Development Council (NDC) in February 1981, accords high priority to agriculture and rural development with the main objectives of stepping up agricultural production, generating substantial employment and income opportunities in the rural areas and strengthening the impulses of modernisation for achieving self-reliance. For implementing various development programmes, the public sector outlay envisaged in the draft Sixth Plan is Rs 11,059 crores for agriculture and allied sectors and Rs 12,160 crores for irrigation and flood control. The public sector outlay on these two sectors, thus aggregates Rs 23,219 crores which represents an increase of about 183 per cent over the approved public sector outlay of Rs 8,200 crores for the Fifth Five Year Plan (1974-79). The broad sub-sector-wise distribution of outlays for agriculture and allied sectors as well as for irrigation and flood control is given in the table 14.4.

TABLE 14.4

OUTLAYS ON
AGRICULTURAL
AND RURAL
DEVELOPMENT
PROGRAMMES

Head of Development	(Rs crores)				
	Fifth Five Year Plan			1979-80 Outlay	Draft Sixth Plan (1980-85) outlay
	Fifth Plan (1974-79) Outlay	1974-78 Actual Exp.	1978-79 Anticipa- ted Ex- penditure		
1	2	3	4	5	6
I. <i>Agriculture and Allied Sectors (including Rural Development)</i>					
1. Agriculture	1,322.2	976.6	643.3	714.8	1,771.7
2. Soil conservation	221.1	175.9	71.9	62.7	433.6
3. Animal husbandry & dairy development	437.7	230.7	106.8	140.5	851.4
4. Fisheries	150.0	92.0	60.1	80.8	371.4
5. Forestry	205.7	156.9	82.1	71.3	692.6
6. Investment in Agricultural Financial Institutions	519.8	372.8	153.1	168.3	821.1
7. Cooperation	375.7	327.2	127.9	98.3	914.2
8. Food, storage, ware housing & marketing	123.5	106.8	46.1	50.2	433.7
9. Land reforms	162.5	126.7	47.0	48.3	304.6
10. Community develop- ment & panchayat insti- tutions	127.4	99.3	40.8	58.6	352.2
11. Others	122.4	—	—	—	4,112.3 ¹
TOTAL	3,768.0	2,665.0	1,379.1	1,493.8	11,058.8
II. Irrigation & flood control	4,432.0	3,540.8	1,582.8	1,581.4	12,160.0
Total (I + II)	8,200.0	6,205.8	2,961.9	3,075.2	23,218.8

¹Notes :

- (i) In the Draft Sixth Plan (1980-85) document, Minor Irrigation and Area Development are excluded from Agriculture and Allied Sectors and included in Irrigation and Flood Control. Necessary adjustments have, therefore, been made in the figures given in cols. 2 to 5 for ensuring comparability.
- (ii) The Sub-head of Agriculture (Item No. 1) consists of Agricultural Research and Education and Crop Husbandry Programmes.
- (iii) The outlay of Rs. 4,112.3 crores marked with asterisk under col. 6 is for Management of Natural Disasters, Integrated Rural Development Programmes, National Rural Employment Programme and Special Employment Programmes.

Source:—Planning Commission.

SEASONS

There are three main crop seasons, namely, *kharif*, *rabi* and summer. The major *kharif* crops are rice, *jowar*, *bajra*, maize, cotton, sugarcane, sesamum and groundnut. The major *rabi* crops are wheat, *jowar*, barley, gram, linseed, rapeseed and mustard. Rice, maize and groundnut are grown in summer season also.

PRODUCTION

The production of foodgrains in India in 1979-80 due to widespread drought sharply dropped to 10.89 crore tonnes as compared to 13.19 crore tonnes in 1978-79. The production of commercial crops, particularly sugarcane and oil seeds also declined.

FOOD
SITUATION

As a result of the widespread droughts in the country foodgrains production declined to 108.85 million tonnes during 1979-80 as compared to the record level of 131.90 million tonnes during 1978-79. Notwithstanding the setback to the foodgrains production, the situation in the country remained comfortable mainly due to the Food management system developed over the years. The country faced the situation without resort to imports. The market availability of cereals remained generally easy.

The sharp decline in production inevitably caused an upward pressure on foodgrains prices. The all-India index number of wholesale prices of cereals (Base : 1970-71=100) which stood at 159.5 in June 1979 was only 0.9 per cent higher than that of the previous year. The cereal price index recorded further increases and on 20 December 1980 at 197.9 was 7.3 per cent higher than the corresponding level of the last year.

The All-India Index number of wholesale prices of pulses moved up from 236.6 in May 1979 to 253.1 in September 1979 an increase of 7.4 per cent. Thereafter, the index dropped to 243.6 in February 1980. Since then the index for pulses increased continuously and stood at 352.4 on 20 December 1980. It is 43.1 per cent higher than that a year ago.

Foodgrain
Policy

For 1980-81 *rabi* marketing season the procurement price of wheat of all varieties was raised to Rs 117 per quintal. The issue price of wheat released from the central pool for public distribution was however, maintained at Rs 130 per quintal.

The new classification of paddy and rice recommended by the Balasubramanian Committee has been adopted from the *kharif* year 1979-80. Under this, paddy and rice have been classified into three categories, viz., common, fine and superfine. For the *kharif* marketing season 1980-81 the procurement price for paddy has been fixed at Rs 105 per quintal for common varieties Rs 109 per quintal for fine and Rs. 113 per quintal for superfine varieties. The issue prices for both raw and boiled rice for 1980-81 marketing year are Rs 165 per quintal for 'common' Rs 117 per quintal for 'fine' and Rs 192 per quintal for 'superfine' varieties.

The procurement price for coarse-grains, namely *jowar*, *bajra*, maize and *ragi* for 1980-81 marketing year has also been fixed at Rs 105 per quintal and the issue price from the Central pool at Rs. 106 per quintal. Movement of wheat, rice, paddy and coarse grains will continue to be unrestricted throughout the country.

Procurement

During 1978-79 and 1979-80, Government reiterated its commitment to purchase all foodgrains of fair average quality offered by the producers at the procurement price and public sector agencies undertook

extensive price support purchase of foodgrains.

1.448 crore tonnes of foodgrains consisting of 63.33 lakh tonnes of rice, 79.92 lakh tonnes of wheat and 1.35 lakh tonnes of coarse grains was procured out of the 1978-79 crop, of which about 1,235 crore tonnes of foodgrains (56.56 lakh tonnes rice, 66.84 lakh tonnes wheat and 0.18 lakh tonnes coarse grains) was contributed to the central pool.

Procurement of foodgrains out of 1979-80 crop is estimated to be 97.89 lakh tonnes (38.26 lakh tonnes rice, 58.52 lakh tonnes wheat and 1.11 lakh tonnes coarse grains). Out of this, 76.43 lakh tonnes of foodgrains (35.00 lakh tonnes rice, 41.21 lakh tonnes wheat and 0.22 lakh tonnes coarse grains) was contributed to the central pool.

Public Distribution

Public distribution system functioning through a wide net work of ration/fair price shops aims primarily at supplying foodgrain to the consumers particularly the weaker sections at a reasonable price. A quantity of 116.63 lakh tonnes (including 16.82 lakh tonnes of foodgrains released from Central Pool under Food For Work Programme etc.) of foodgrains was distributed during 1979, about 15 lakh tonnes more than the quantity distributed during 1978. Favourable weather conditions prevailed till the end of July, 1979, but during the later half of 1979 drought conditions developed in many states, straining the public distribution system. From August, 1979 the off take of foodgrains from the public distribution system started picking up progressively during each subsequent month. The drought affected states were requested to strengthen and expand their public distribution system to ensure supply of foodgrains to the drought affected people in the rural areas. About 137.41 lakh tonnes of foodgrains (including 19.92 lakh tonnes from the Central Pool under the 'Food For Work Programme') was distributed upto November, 1980 as compared to 102.47 lakh tonnes (including 14.44 lakh tonnes from the central pool under the 'Food for Work Programme' distributed during the corresponding period last year.

Rationing

Statutory rationing of rice and wheat continued to be in force in Calcutta and Asansol-Durgapur group of industrial towns in West Bengal. Informal rationing of foodgrains continues in other areas. The total number of fair price shops and ration shops in the country, up to the end of November 1979 was 2.4 lakhs, covering a population of 59.19 crores.

Price Policy

Fixation of minimum support prices and procurement prices has been an essential feature of the central government's policy for the past several years. Minimum prices are in the nature of a long-term guarantee to the producers so that in the event of a glut, price are not allowed to fall below the minimum economic levels. These prices are generally announced before the start of the sowing season. In 1973-74, the minimum support prices for *kharif* cereals were substantially raised and fixed at levels higher than the previous year's procurement prices. The government decided not to announce the minimum support prices for *kharif* cereals from 1974-75 to 1980-81 and for wheat from 1975-76 to 1981-82, and undertook to purchase all quantities of foodgrains of fair average quality offered for sale at the procurement prices which are higher than the minimum support prices.

Import of Foodgrains

There was no import of foodgrains during 1980. Table 14.5 shows the import of cereals into India since 1974.

TABLE 14.5

IMPORT OF CEREALS

	('000 tonnes)						
Cereals	1974	1975	1976	1977	1978	1979	1980
Rice . . .	—	130	149	8	—	—	—
Wheat . . .	4,203	7,016	5,832	547	—	—	—
Other cereals .	671	261	534	—	—	—	—
TOTAL .	4,874	7,407	6,515	555	—	—	—

Export of Foodgrains

During 1980, no commitment for export of wheat was made. Export of basmati rice continued to be an open general licence. Export of 10 lakh tonnes of *non-basmati* rice during 1980-81 was also allowed under varied arrangements—cash, barter and commodity loan basis. While the government-to-government transactions would be effected through the Government of India, Department of Food, the designated exporting agencies were allowed commercial exports of rice within the quotas allotted and conditions laid down by the government. Within the overall ceiling of 10 lakh tonnes for the year, some fresh government-to-government agreements for export were also entered into. These fresh agreements related to supply of 12,000 tonnes of rice to Mauritius on commercial basis, 50,000 tonnes of rice to Vietnam on commodity loan basis and 75,000 tonnes of rice to the USSR as part of the 5 lakh tonnes of rice to be supplied to that country in exchange of crude and diesel oil, under the Indo-USSR protocol signed on 19 June 1980.

Buffer Stock

Building up and maintaining of buffer stock of foodgrains have been important elements of India's food policy. The buffer stock is meant primarily to ensure stability in supplies and prices over the years.

On the basis of the recommendations made by the Technical Group on Buffer Stock of Foodgrains, the Government decided to build up and maintain a buffer stock of 1.2 crore tonnes. This is in addition to operational stock of foodgrains needed for running the public distribution system. The quantum of operational stock as estimated by the Technical Group varies for different points of time; the range being 35 to 38 lakh tonnes 1 April to 82 to 88 lakh tonnes on 1 July.

The total physical stock with the central and state governments at the end of June 1980 was estimated to be 1.62 crore tonnes as against 2.15 crore tonnes a year earlier.

Storage

The Food Corporation of India and the Central Warehousing Corporation provide storage at the centres of all-India importance; the state warehousing corporations and the state governments at the centres of state importance and the district level; and the cooperatives at the primary and marketing society level in rural areas. A scheme has also been initiated for establishing a national grid of rural godowns for agricultural produce in the rural areas.

Save Grain Campaign

Since the storage losses at the farmer/trader level are known to be substantial due to faulty and improper methods of storage, the government is tackling the problem through the 'Save Grain Campaign'. The scheme aims at providing the appropriate technology through education, motivation and persuasion in preventing the losses and improving the farm and community level storage. Simple but effective methods of foodgrain storage and pest control are being popularised. Improved type of metal bins and pesticides are also supplied.

The activities of the Save Grain Campaign are being undertaken by a network of regional teams of technical staff. They are supported by the Indian Grain Storage Institute, Hapur, and its field stations at Hyderabad and Ludhiana, which conduct applied research on various aspects of grain storage, handling and preservation designing of storage structures, screening of pesticides and training for apex level personnel.

Quality Control

The Storage and Inspection Division is responsible for formulation of uniform specifications for procurement of foodgrain all over the country and also to deal with policy matters in respect of technical aspects for import and export of foodgrains and also to render advice to FCI, state governments and other agencies connected with the storage of foodgrain in respect of preservation and quality aspect. For this purpose the Central Grain Analysis Laboratory undertakes analysis of the consignment samples of imported as well as indigenously procured foodgrains and their products. Recently two quality control cells have been created; one at New Delhi and the other at Calcutta to monitor the quality of foodgrains being procured and preserved by FCI, CWC, SWC, state governments, and other connected agencies. The cells also investigate the quality complaints for early redressal.

Nutrition and Food Processing

The Food and Nutrition Board in the Department of Food has taken up a number of action programmes for systematic development, preservation and effective utilisation of food. The programmes have been directed towards improving the nutrition of the people by a combination of measures concerned with augmenting the available supplies of nutritious foods, particularly for meeting the requirements of feeding programmes, fortification and enrichment of food supplies, training and educating nutrition workers and consumers and planning development of integrated food and nutrition systems approach. It has also initiated programmes for modernisation of rice, *dal* and maize milling, processing of other foodgrains, promotion of fruit and vegetable preservation industry, protein food industry and bakery industry. About 42,170 tonnes of *Balahar*, a low cost nutritious food, was produced during 1978-79 for use in nutrition intervention programmes, particularly for the pre-school and school going children. The production of miltone, a protein isolate toned milk based on groundnut, was more than 25 lakh litres during the year. About 651 tonnes of *Balamul*, a weaning food, was produced during 1978-79.

Four institutes of Hotel Management, Catering Technology and Applied Nutrition and eleven Food Craft Institutes continued to function during 1978-79. Masters' level courses as well as short term course on specialised subjects for Indian and foreign students were organised by the International Food Technology Training Centre, Mysore.

Food Corporation of India

The Food Corporation of India, set up in 1965 under an Act of Parliament, serves the nation in the vital areas of food procurement, storage

and distribution, protecting the interest of both the farmers and the consumers. The Corporation has an annual turnover of over Rs 4,000 crores.

Besides the annual purchase of one crore tonnes of foodgrains FCI also handles imported non-potassic fertilizers and levy sugar.

The corporation also has a provision of about 2.20 crores tonnes of scientific storage accommodation. The storage capacity is being increased with the financial assistance of the World Bank and under the FCI's own crash programmes. It is proposed to add another 20 lakh tonne storage capacity during the Sixth Five Year Plan.

For distribution through fair price shops, FCI supplies to State Governments and Union Territories nearly 120 lakh tonnes of foodgrains every year.

The Corporation has 25 modern rice mills in various States. It also produces Balahar, a protein rich food for children. Its solvent extraction plant at Samabanarkoil (Tamil Nadu) manufactures edible and industrial grade oil from rice bran. A dal mill has also been set up at Lucknow to meet the requirements of Army Purchase Organisation.

Central Warehousing Corporation

The Central Warehousing Corporation acquires and builds godowns and warehouses for storage of agricultural produce, inputs, agricultural implements and notified commodities.

The storage capacity with the corporation on 1 October 1980 was 35.60 lakh tonnes (godowns—20.99 lakh tonnes owned, 13.10 lakh tonnes hired and open storage 1.51 lakh tonnes). Besides this the Corporation has also custom bonded warehouses at Delhi, Amritsar, Ludhiana, Calcutta, Kandla, Ahmedabad, Baroda, Surat, Bhopal, Cochin, Ernakulam & Bombay to enable exporters/importers to keep the commodities in good condition pending shipment.

DEVELOPMENT PROGRAMME

A new strategy for agricultural development is being implemented from 1966-67. It *inter-alia* includes cultivation of high-yielding varieties over larger areas; development of irrigation facilities, particularly exploitation of ground water resources; adequate and balanced use of fertilizers; adoption of need based plant protection measures; and a well organised and systematic supply of inputs including credit through institutional and other financing agencies. In addition, efforts have been made to bring science and technology closer to the farmers through education and training and a strengthened extension set up. Special emphasis is being laid on programmes for the uplift of the weaker sections of rural population, particularly the small and marginal farmers, agricultural labourers, farmers in drought prone areas, tribal and hill areas etc.

High Yielding Varieties Programme

The high-yielding variety programme is the main plan of the new agricultural strategy. A far-reaching event in the annals of Indian agriculture has been the introduction of high-yielding varieties of a number of field crops and hybrids of millets in particular. This programme covers major food crops, namely, wheat, rice, maize *jowar* and *bajra*. The success of this programme has revolutionised agriculture and brought about a phenomenal and rapid increase in foodgrains production in the country. Since 1965-66 (base year of the new agricultural

strategy), the wheat production has increased three-fold and rice production by more than 76 per cent. The progress under maize, *jowar* and *bajra* was, however, small, mainly due to lack of suitable hybrids and incidence of pests and diseases on some of the hybrids.

The coverage of area under this programme has registered a sharp increase, from 18.9 lakh hectares in 1966-67 to 4.20 crore hectares in 1978-79. The target for 1980-81 has been fixed at 4.80 crore hectares.

Among the five crops included under the programme, high-yielding varieties of wheat have proved a big success because of the absence of serious pests and diseases, decentralised water management system in a large part of wheat growing areas, better crop growth conditions, assured market and the price policy adopted by the government, etc. In fact, the increase in wheat output has become an important stabilising factor in foodgrain production in the country. The cultivation of wheat is now fast spreading even in non-traditional areas such as east Bihar, West Bengal, Maharashtra, Assam and Orissa.

Significant progress has also been made in the cultivation of high-yielding varieties of rice, although the pace of development is not as fast as in the case of wheat. This is due to the fact that the bulk of the crop is grown in *kharif* season which is subjected to vagaries of the monsoon, characterised by drought or floods and its vulnerability to attack by pests and diseases. However, in *rabi* season, when rainfall is low and water management is easier, the high-yielding varieties have given a much better performance. An important development in rice cultivation is the replacement of coarse high-yielding varieties of rice by high quality fine grain varieties like *Ratna*, *Vijaya*, *I.R. 20*, *Mahsuri* and a number of *IET* selections. As a result of the introduction of high-yielding varieties, rice production is also increasing at a faster rate in the non-traditional rice-growing states like, Punjab, Haryana and western U.P. Much of the rice produced in these states is offered for procurement to the central pool because of limited local consumption. This has helped in diversification of cropping pattern in traditional rice growing belts which have not shown any substantial increase in productivity due to inherent reasons.

Among the coarse grains, hybrid *bajra* was making good progress till 1970-71, but subsequently it received a setback due to the prevalence of downy mildew and ergot diseases. Some new varieties/hybrids of *bajra* like *BJ-104* and *BK-560* tolerant/resistant to these diseases have since been evolved and are being spread over large areas. Similarly, some new hybrids and high-yielding varieties of *jowar* like *CSH-5* and *CSH-6* have been evolved to suit the prevailing cropping pattern in major *jowar* producing areas and are being taken up for large scale cultivation. There has also not been significant break-through in maize cultivation and its production is sought to be increased by concentrating efforts in potential areas with an organised marketing support.

The high-yielding varieties programme is dovetailed with the implementation of central sector schemes of (i) minikit programme of rice, wheat, maize, *jowar*, *bajra* and *ragi* for selection of suitable varieties adopted to different situations; (ii) community nurseries programme of rice and *bajra* to bring about an advancement in sowing time, increase in productivity and to vacate the fields early for timely sowing

of succeeding *rabi* crops and to tide over crop losses due to natural calamities; (iii) replacement of rust susceptible wheat varieties in hill areas with rust resistant varieties to minimise the rust menace in the country; (iv) maize demonstrations in tribal areas to bring home to the tribal farmers the efficacy of the new technology in the production of maize crop for enhancing the yield per unit area; and (v) state level pre-season training of extension workers to disseminate the latest production technology, etc.

Soil and Water Conservation

The whole country, on the bases of factors ranging from climate to physiography, has been demarcated into 10 soil Conservation Regions and main problems and broad management practices have been identified for these regions. Out of an estimated 17.50 crore hectares of problem areas, 8.21 crore hectares are rainfed non-paddy land, 1.949 crore hectares forest lands and another 2.256 crore hectares include permanent-pastures, culturable wastelands and other culturable lands. Besides 4.294 crore hectares are subject to special problems of gullies and ravines, alkalinity and salinity, shifting cultivation, forests, riverine lands, water logging, desert, coastal sands etc.

The soil and water conservation programmes constitute an important activity to protect the soil resources of the country, check soil erosion and land degradation and reclaim degraded and problem lands. The programmes are being implemented under the state, central and centrally sponsored sectors.

By the end of 1979-80, about 2.34 crore hectares was treated with soil and moisture conservation measures at an expenditure of Rs 664 crores. The programme consists of contour building, bench terracing, land levelling and shaping as well as improved agronomical practices on agricultural lands. On non-agricultural lands biological measures such as afforestation and grassland development etc. are adopted. For better moisture conditions and balanced ecology, nallah plugging, farm ponds, erosion control/water harvesting structures are constructed at suitable locations.

The watershed management programme in the catchment of 31 river valley projects was initiated in the Third Plan period with a view to prolong the life of the major reservoirs by reducing the sedimentation. Since 1974-75, the work have been carried out in 290 small priority watersheds of size 2,000 to 4,000 hectares. Silt load data have shown that the programme has reduced the sediment production with the increase in coverage of area.

All India Soil and Land Use Survey Organisation, Department of Agriculture, continues to carry out survey of the catchments for delineating and codifying watersheds and indicating their *inter se* priorities. The organisation also started collaborated projects with Indian Space Research Organisation for finding methodology to use remote sensing data including satellite imageries. It has also brought out a catalogue of nearly 171 soil survey reports and a compilation of infiltration characteristics for 75 identified soil series for ready reference.

A centrally sponsored scheme of integrated watershed management in the catchments of flood prone rivers in the Indo-Gangetic basin has been taken up in the identified watersheds for improving the ability of the catchments for absorbing greater part of the rain water, reducing erosion and consequent silt load in the channel

flow. This scheme is in operation in the catchments of upper Jamuna (above Tajawala) Sahibi, Upper Ganga (above Rishikesh), Gomti, Pun-Pun, Ajoy, Sone and Roopnarain. The central schemes of protection of table lands and stabilisation of ravineous areas and reclamation and management of alkali and acid soils, were transferred to the states in 1979-80.

Fertilizers

Fertilizer is the key input in increasing agricultural productivity. Every tonne of nutrient increases the yield by about 10 tonnes of food-grains. The annual consumption of fertiliser is thus, a good indicator of the country's performance in crop production. India ranks very high in the world in terms of fertilizer consumption which was 52.56 lakh tonnes during 1979-80, an increase of 2.7 per cent over the previous year. The consumption is expected to be about 54 lakh tonnes in 1980-81.

To ensure that the right type of fertilizer reaches the farmer in the right quantity, at the right time and the right price, a number of innovative measures have been taken in this direction.

Organic Recycling

In the context of dwindling non-renewable energy resources, the programme on organic recycling is being given added attention. The programme like rural composting, bio-gas development, sewage/sullage utilization, green manuring and mechanised composting are now being implemented under the state sector.

During 1979-80, the rural and urban compost production rose to about 22,872 crore and 66.10 lakh tonnes from 22,194 crore and 60.40 lakh tonnes respectively in the preceding year. The coverage under green manuring was 50 lakh hectares. About 86,000 gobar gas plants had been installed by the end of 1979-80. A cheaper model of fixed-dome bio-gas plant developed recently is also being popularised.

Quality Seeds

The government of India through its two agencies—the National Seeds Corporation (NSC) and the State Farm Corporation of India—is supplementing the states' effort in production and distribution of seeds. The NSC looks after the inter-state marketing of certified seeds, the production of foundation seeds and the availability of breeder seeds in cooperation with the Indian Council of Agricultural Research (ICAR). During 1980-81, the NSC plans to produce about 8.11 lakh quintals certified seeds of cereals, pulses, oilseeds, fodder, fibre and vegetables for inter-state marketing. It expects to produce foundation seeds 1.09 lakh quintals, breeder seeds 5057 quintals during 1980-81 as against 44,554 quintals and 4,649 quintals respectively during 1979-80. As a promotional activity the NSC exported 1.13 lakh quintals of seeds of various crops in 1980-81 as against 60,258 quintals exported during 1979-80 to the developing countries. To ensure timely distribution of seeds to the farmers, the NSC increased the number of dealers to 3755 in 1980-81.

With the launching of the National Seeds Programme by the Government of India, the States of Punjab, Haryana, Andhra Pradesh, Maharashtra, Bihar, Orissa, Karnataka, Rajasthan and Uttar Pradesh have set up their own Seed Corporations which are expected to produce about 13.69 lakh quintals of certified seeds of major cereals i.e. wheat, paddy, maize, jowar and baira during 1980-81 as against about 8.87 lakh quintals during 1979-80.

The Central Seed Committee and the Central Certification Board

set up under the Administration of the Seeds Act, 1966, by the Government of India advise the Central Government on seed varieties, purity and germination standards including minimum certification standards, seed certification procedure and the activities of seed certification agencies of the States. They have several sub-committees at the Central and State level. The two important sub-committees of the Central Seed Committee working at Central level are : Central Sub-Committee on Release of Varieties and the Central Sub-Committee on Crop Standards and Notification. During 1980-81, the Government of India notified 26 varieties of various crops for regulating the quality of their seeds. Eleven varieties of paddy, marvel grass, potato and gram have also been released as high yielding varieties. To meet the unforeseen demand for certified and foundation seeds the NSC maintains a reserve stock. During 1979-80, 33,298 quintals of certified and 778 quintals of foundation seed was kept in this stock.

Plant Protection

Under the centrally sponsored scheme "control and eradication of pests and diseases of agricultural importance including weed control in endemic areas" about 11.73 lakh hectares is proposed to be covered during 1980-81. The consumption of pesticides is also expected to go up from about 50,000 m.t. during 1979-80 to 62,000 m.t. during 1980-81. A satellite laboratory for Remote Sensing to locust breeding grounds has also been established at Jodhpur (Rajasthan). The country remained free from locust during 1980.

Agro- Service Centres

The agro-service centre scheme was introduced in 1971 with the twin objective of providing employment to trained entrepreneurs and inputs to the farmers at their door step at reasonable prices. Since the inception of the scheme 3205 centres have been set up upto 31 December 1980. This scheme was transferred to the state sector from 1 April 1979. The Planning Commission has approved yet another scheme of Agro Service Centres during the Sixth Five Year Plan with a total plan outlay of Rs 5.50 crores. During 1981-82, 400 centres are proposed to be set up with an expenditure of Rs 1 crore.

Agro- Industries Corporations

Agro Industries Corporations have been set up in 17 states as state sector undertakings, in which both the central and state governments are equal contributors. The Government of India has three Central directors on the board of each corporation. The central representation on the boards of the corporations has been professionalised. State governments have been advised to professionalise their representation on the board.

The total authorised share capital of all the corporations as on 31 March 1979 stood at Rs 80.00 crores and the paid-up capital was about Rs 65.6 crores, out of which Government of India's contribution was Rs 31.55 crores. Since 1979-80, the scheme has been transferred to the state sector and the government of India has not released any share capital during the year.

Dry Land Agricultural Development

Nearly 75 per cent of the land in India is dependent upon rainfall which is erratic and unpredictable. This semi-arid/rainfed areas of the country, provide much of the industrial raw materials like cotton and oilseeds. Keeping in view the importance of this area, the Government of India had launched a scheme of Integrated Dry Land Agricul-

tural Development in 1970-71 through 24 projects in 12 states. This scheme has been transferred to the state sector from 1979-80. The union government, however, maintains a close liaison with the state governments for the implementation of this programme and monitors its progress.

The World Bank has shown interest in the development of rainfed farming areas and with its aid Kandi Watershed and Area Development Project in Punjab has already been launched to lay the basis for sound investment on a large scale in the future to (a) reverse man made ecological degradation in the lower foot-hills of the Himalayas; and (b) protect and develop agricultural land presently subject to serious erosion and flood. The project will cost 6.08 crores US dollars of which 3 crores will be the World Bank loan.

Four other projects for the same purpose in the Andhra Pradesh, Madhya Pradesh, Karnataka and Maharashtra are being formulated.

Rainfed Problem Area Development

In order to deal with the problem of developing the rainfed area, the Government of India has constituted a Task Force to identify problems of semi-and/rainfed areas and to suggest ways and means of dealing with them. The Task Force submitted an interim report and will be completing its final report soon. The recommendations would form the basis for the development of the rainfed areas on a large scale.

AGRICULTURAL RESEARCH AND EDUCATION

The Department of Agricultural Research and Education, set up in 1973, is responsible for coordinating research, education and extension education in the field of agriculture, animal husbandry and fisheries in India. Besides, it also helps in bringing about inter-institutional and intra-institutional collaboration, both at national and international levels, among agencies like the International Atomic Energy Agency, and FAO, engaged in the allied fields.

ICAR

Farm research in the country is carried out and coordinated by a number of public and quasi-public institutions, spearheaded by the Indian Council of Agricultural Research (ICAR). Set up in 1929, it is the apex body for formulating plans and co-ordinating agricultural, animal husbandry and fisheries education and research and their application. (For details, see Chapter on 'Scientific Research.')

Agricultural Education

In the field of agricultural education ICAR performs a role similar to that of the University Grants Commission. Almost every state has an agricultural university, now numbering 22 including Indian Agricultural Research Institute, New Delhi, with the status of deemed university for education and research both at post-graduate and doctoral level. While Maharashtra and Uttar Pradesh have more than one agricultural university, in Bihar one more in the tribal region has been approved. The proposal for a university in Jammu and Kashmir is also under consideration. With a view to imparting practical and skill-oriented training to farmers, for women, unemployed village youth, school drop-outs, etc., *Krishi Vigyan Kendras* (Farm Science-Centres) have been established by ICAR in different parts of the country. Thirty-one Kendras were in operation by 1981. Seven Trainers' Training Centres have also been set up to train the teachers of these Kendras.

The total enrolment of students for agricultural and animal sciences has gone up considerably since 1960.

National Commission on Agriculture

The National Commission on Agriculture, set up in August 1970, submitted its final report on 31 January, 1976. The report contains recommendations on a number of subjects like crop production, land and water development, animal husbandry, fisheries, forestry, agricultural research, education and training, organisation of supporting services, employment and manpower and other aspects like land reforms, special area programmes etc. An implementation cell in the Department of Agriculture and Cooperation follows up the recommendations of the Commission.

ANIMAL HUSBANDRY

CATTLE DEVELOPMENT

Cattle occupy an important position in the economy of the country. In view of their valuable contribution to the rural economy, a high priority has been given for their development in the national plan.

India is the home of some of the best breed of cattle and milch buffaloes in the world, including the well known tropical milch breed *Gir*. The approach adopted in cattle development is to upgrade the productivity of indigenous breeds by selective breedings. However, in the case of non-descript cattle population, which constitute the major portion, crossbreeding with recognised temperate dairy breeds such as Jersey and Holstein Friesian, etc., has been adopted to combine the productivity of the exotic breeds with the adaptability of the indigenous variety.

Important projects for cattle development are "operation flood and intensive cattle development projects". The other activities include establishment of nucleus breeding herds, maintenance of herd books for nationally important breeds of cattle, programmes for artificial insemination, introduction of frozen semen technique, etc. An integrated approach has been developed to give simultaneous attention to improved breeding, augmentation of feed and fodder resources, effective health cover, extension service and marketing facilities.

A network of about 12,000 artificial insemination units has been set up in the rural areas.

FODDER DEVELOPMENT

Seven regional stations for forage production and demonstration have been established in different agro-climatic conditions in the country by the Central Government with the object of achieving quick transfer of technology on all aspects of fodder production, conservation and utilization and to assist the state agencies in the conduct of their extension programmes. Introduction of new agro-technology now enables the farmers in the valley of Kashmir to grow *berseem* in the paddy fallows and get valuable fodder in spring without in any way disturbing the normal paddy cultivation. New fodder species have been identified for use in the upland rain-fed areas and also for winter feeding in the temperate region of the country.

Significant breakthrough has been achieved in the production of pasture legume seeds for use in grassland development. New species varieties such as *Stylo-santhes hamata*, *S. Scabra*, *S. Viscosa*, etc., have been introduced and large scale seed multiplication undertaken for distribution to the Forest Department, DPAP areas and other interested agencies.

The fodder minikit testing programme has been intensified to cover 12 states and over 13,500 kits were supplied during the *khari* and *rabi* seasons.

The production of foundation seeds of the recommended high yielding varieties was further stepped up by the regional stations and during the current year over 121 tonnes of seeds of improved varieties of fodder were produced.

One fodder seed production farm (432 acres) was started in 1979 at Hessarghatta (Karnataka) with Australian collaboration. With the starting of seed production in this farm, availability of foundation and certified seeds of a number of fodder crops will ease considerably.

POULTRY DEVELOPMENT

Egg production in the country recorded an increase from 280 crores in 1961 to about 1,300 crores by the end of 1980. The progress in broiler production rose from 40 lakh broilers in 1971, to over 2 crores by the end of 1980.

Scientific Poultry Breeding Programme taken up by the Central Poultry Breeding Farms at Hessarghatta (Bangalore), Bombay and Bhubaneswar has yielded significant results. A hybrid strain called 'HH 260' adapted to our agro-climatic conditions has already been released. Another strain with very good production potential has also been developed at the Central Poultry Breeding Farm, Bombay.

Scientific broiler breeding programme has been taken up at the Central Poultry Breeding Farm, Chandigarh.

Three random sample test units located at Hessarghatta (Bangalore), Bombay and Bhubaneswar are providing useful service to poultry farmers, hatcheries and poultry breeding farms by evaluating the performance of the hybrid chicks and broiler stocks under uniform management and feeding conditions. The fourth test unit is being set up at Gurgaon in Haryana. This will help in testing the stock in agro-climatic conditions of the northern region.

A comprehensive duck development programme has been drawn up for major duck producing states like Kerala, Tamil Nadu, Andhra Pradesh, West Bengal, Assam, Tripura and Manipur. With British assistance under Colombo Plan, Indian extension workers have been trained in modern duck rearing practices in UK. A special duck disease diagnostic laboratory and vaccine production unit for producing vaccine for important duck diseases is being set up at Calcutta.

The Central Training Institute for Poultry Production and Management, Hessarghatta has conducted two training courses in feed analytical techniques and one in economic poultry production. The training institute is also serving the cause of poultry industry by providing feed analytical facilities.

The marketing of eggs and poultry at national level has been taken up by National Agricultural Cooperative Marketing Federation of India Ltd., (NAFED) and marketed about 5 crore eggs in 1979-80.

PIGGERY DEVELOPMENT

Eight bacon factories and pork processing plants have been established in the country in the public sector with a view to producing wholesome pork, pork products and to provide remunerative market for the pigs produced by the farmers. Some of these factories have diversified their production pattern and are handling different types of meat. Sixty-seven pig breeding farms supply breeding stocks of exotic cross-bred pigs to the farmers for further multiplication and the surplus stock for slaughtering in bacon factories. With a view to augmenting the pork production in the country, exotic pig varieties like large white Yorkshire, Landrace, Hampshire, Berkshire etc. have been imported.

**SHEEP
DEVELOPMENT**

The total sheep population of India is about 4 crores, the fourth largest in the world. The average wool yield of our sheep is 0.8 to 0.9 kg per annum, whereas in other countries sheep like Merino produces about 4 to 5 kg a year. The total wool production in the country is estimated at 3.40 crore kg (1979-80). Out of this 5 per cent is apparel type for fine clothing (35 per cent for carpets and 60 per cent for inferior carpets, nemdas and army blankets. The total spindlage for utilising apparel wool established in the country is 25 lakh kg and the wool required to run these spindles is 3.5 crore kg (single shift). India imports 1.9 crore kg of fine wool at a cost of Rs 23 crores every year.

The value of woollen carpets produced has risen from Rs 13.28 crores in 1968-69 to Rs 81.82 crores in 1978-79. The total availability of wool for carpet manufacture is about 1.1 crore kg and total demand is of the order of 2.0 crore kg.

To improve the genetic make up of our sheep, the total requirement of fine wool rams in the country to cover the total breedable ewes is 1.07 lakhs. To achieve this, 90 sheep breeding farms and 1,278 extension centres have been opened. These measures have shown some results and the total raw wool production which was only 2.75 crore kg in 1951 has gone up to 6.50 crore kg by 1979.

To further boost the sheep industry, an exotic sheep breeding farm has been established at Hissar. The farm has distributed 2,643 selected exotic rams to different states. This farm also trains officers and shepherds in modern sheep management. To popularise the modern methods of machine shearing of sheep, shearers from different states are also trained. To improve the marketing and grading system of wool in the country, 5 wool boards/sheep corporations have been established.

**Modernisation of
Slaughter Houses**

There are nearly 2,800 slaughter houses in the country where about 8.20 lakh tonnes of meat is being produced annually.

Programme for modernising slaughter houses in selected cities such as Panaji (Goa), Bangalore, Calcutta, Durgapur, Hyderabad and Madras have been initiated and seven meat development corporations have been formed.

**ANIMAL
HEALTH**

Provision of adequate veterinary aid is an essential pre-requisite for obtaining optimum production from the livestock. Approximately 11,200 veterinary hospitals and dispensaries and about 450 mobile veterinary dispensaries function in the country to provide veterinary aid. Veterinary polyclinics with facilities for treating clinical, surgical, gynaecological and intestinal disorders have also been set up in some important towns. Disease investigation laboratories have also been provided in different states and union territories for aiding diagnosis of animal disease. Veterinary training, including post-graduate and Doctorate training, is imparted at 22 veterinary colleges in the country. Additionally, research on animal disease problems is conducted in two national research institutes, namely, the Indian Veterinary Research Institute and the Central Sheep and Wool Research Institute.

African horse sickness, a dreadful disease of horses, has been eradicated from the country. Swine fever has also been largely controlled and its incidence confined to a few areas in the north eastern states. The incidence of rinderpest is now considerably reduced and it remains confined to only certain pockets in the country. Approximately, 40 lakh vaccinations have been carried out so far under the

Foot and Mouth Disease Control programme. Twenty-three lakh doses of Foot and Mouth Disease/Polyvalent vaccine were produced at two manufacturing centres in the country during 1978-79. With a view to preventing ingress of exotic diseases in the country through importation of livestock/livestock production, four quarantine stations have been set up at Delhi, Bombay, Calcutta and Madras.

**ANIMAL
HUSBANDRY
STATISTICS**

Efforts were made during the Fifth Plan to build up a reporting system for collection of data on important indicators of livestock economy. Sample surveys were started to estimate production of major livestock products such as milk, eggs, wool and meat. Since all states and union territories could not be covered, a central sector scheme has been approved in the Sixth Plan to give a push to the sample surveys programme.

**DAIRY AND
MILK SUPPLY**

There are, at present, 190 dairy plants in the country in the public and cooperative sectors. Of these, 94 are liquid milk plants, 30 milk product factories and 66 pilot milk schemes/rural dairies. Against their installed capacity of 96.78 lakh litres a day, the average throughput of milk is 62 lakh litres.

Under Operation Flood I Project, milk production enhancement programmes are being taken up in 10 states. Necessary infrastructure has also been created by setting up 18 feeder/balancing dairies and expansion of existing dairies and also setting up of 4 Mother Dairies at Delhi, Bombay, Calcutta and Madras.

A massive dairy development project estimated to cost Rs 48.5 crores has been launched under Operation Flood II. This project will enable one crore milk producer families to build a viable self-sustaining dairy industry by middle of 1985. The project envisages the creation of a National Milk Grid which will link the rural milk sheds to the major demand centres.

FISHERIES

**Fish
Production**

The development of fisheries recorded growth during 1980-81. This was possible due to the high priority given to the development of this sector, in view of extended jurisdiction over two hundred miles of sea from the coastline and arrangements for exploration, training, provision for infrastructural facilities etc. for extending fishing activities into the Zone.

Fish production during 1979 was about 23.43 lakh tonnes comprising 14.95 lakh tonnes from marine sector and 8.48 lakh tonnes from inland sector. The target for fish production for 1980 was 25 lakh tonnes.

**Export of
Marine Products**

During 1979-80, exports amounted to Rs 248.82 representing an increase of Rs 14.20 crores over the previous year.

Mechanisation

There are about 16,100 mechanised boats currently in operation which are expected to touch 19,000 by the end of the Sixth Plan. During the last four years, nearly 250 small purse-seiners have been introduced. At present, the country has 72 commercial deep sea fishing vessels. To increase the deep sea fishing capability, the Government have taken a number of measures including revival of the soft loaning announcement of a charter of policy to enable Indians to charter foreign vessels on trial basis and subsequent purchase if the charter proved successful, strengthening of Indian yards for indigenous construction of

vessels and 33 per cent subsidy on these vessels.

Fishing Harbours

To exploit marine fish resources, landing and berthing facilities for crafts are being provided at various major and minor ports. Fishing harbours capable of handling small and medium size fishing vessels have been developed at the minor ports of Tuticorin, Vizhingom, Karwar, Dhamra and Port Blair. For the operation of medium and large size deep sea fishing vessels, fishing harbours have been developed at the major ports of Cochin, Roychowk and Vishakhapatnam (stage I).

Construction of fishing harbours at the major port of Madras and minor ports of Malpe, Hannavar, Mallipatnam, Kodikkarai, Kadargede and Karanja is nearing completion; while work has been sanctioned at the major ports of Bombay and Vishakhapatnam (stage II) and minor ports of Veraval, Mangrol, Porbunder, Kakinada, Nizamapatnam, Bhavanapadu, Ratnagiri and Mangalore. Projects at Veraval and Mangrol in Gujarat, Kakinada, Nizamapatnam and Vishakhapatnam (stage II), are being implemented as integrated marine fisheries projects with World Bank assistance.

Exploration of Marine Fisheries

The Exploratory Fisheries Project, Bombay has been undertaking exploratory survey in the offshore and deep sea waters from 12 bases with the help of 28 trawlers. The new vessels are large and equipped for diversified fishing like mid-water and pelagic trawling, purse-seining, long lining and squad-jigging. The project has completed survey of 90 per cent area within 40 fathoms depth and the results are being made available to the fishing industry.

Integrated Fisheries Project

The important activities of the Integrated Fisheries Project, Cochin, include (i) experimental fishing; (ii) production and marketing of diversified fish products; and (iii) training of personnel for fisheries industry. The workshop and slipway of the project gives servicing facilities for the project vessels, sister organisations and private entrepreneurs of Cochin and surrounding areas. The project has set up a modern aluminium canning plant for the utilization of pelagic fishery resources.

Inland Fisheries

The inland fisheries resources in the country comprise 29,000 kms² of rivers and their tributaries, 30 lakh hectares of reservoirs, 15 lakh hectares of tanks and ponds and 14 lakh hectares of brackish water swamps.

The total fish production from all the sources increased from 6.90 lakh tonnes in 1971 to 9 lakh tonnes in 1979. The National Commission on Agriculture has estimated a production potential of about 35.00 lakh tonnes of fish per annum from all inland resources in the next 25 years. Significant technological progress in fish culture in fresh water and brackish water had been achieved in the recent past.

Fish Farmers' Development Agencies

In the central sector, a pilot scheme called the Fish Farmers' Development Agencies (FFDA) was taken up during the Fifth Plan to popularise intensive fish farming in tanks and ponds. Till the end of 1979, 50 FFDA's had been established mobilising 5,057 hectares of water area. The FFDA's have carried out extension and allied operations such as training of fish farmers, supply of inputs and reclamation of tanks and ponds.

A World Bank project on inland fisheries is being undertaken from April, 1980 for a period of 5 years, to develop 1,17,000 hectares of

Training and Research

water area in 5 project states, viz., West Bengal, Bihar, Orissa, Madhya Pradesh and Uttar Pradesh.

Training facilities are available at the Central Institute of Fisheries Education, Bombay, and its unit at Inland Fisheries Training Centre, Barrackpore and Regional Training Centre at Agra. A Central Fisheries Extension Training Centre at Hyderabad also trains candidates in extension techniques relating to fish culture. These institutions have been transferred to the Indian Council of Agricultural Research from August 1979.

The Central Institute of Fisheries-Nautical and Engineering Training, Cochin, with its unit at Madras is training candidates for marine fisheries operatives for manning the fishing vessels and shore establishments. Another unit of the Institute has been set up at Vishakhapatnam (Andhra Pradesh) to train candidates as fishing second hands and engine drivers of fishing vessels.

The three institutes continued research on various problems relating to marine and inland fisheries. Foreign assistance has also been received for the construction of fishing vessels and training of personnel.

FORESTRY

In India, forests occupy an area of about 746.00 lakh hectares, about 22.7 per cent of the total geographical area. The National Forest Policy aims at maintaining one-third of the total geographical area under forests. But due to increase in population and consequent upon heavy pressure on forest land for diversion to cultivation, river valley projects, industrial estates and many other uses, about 45 lakh hectares of forest area were lost during the last 30 years. This has happened despite the guidelines issued by the union government that forest area should not

TABLE 14.6
AREA UNDER
FORESTS

		('000 hectares)	
Description	1977-78 ¹	1978-79 ¹	
1. <i>From the point of view of exploitation :</i>			
(i) Exploitable (Forests in use)	39,735	38,741	
(ii) Potentially exploitable	15,044	15,981	
(iii) Others	19,355	19,472	
TOTAL :	74,134	74,194	
2. <i>By ownership :</i>			
(i) State owned	69,553	69,658	
(ii) Corporate bodies	3,723	3,723	
(iii) Private individual	858	813	
TOTAL :	74,134	74,194	
3. <i>By legal status :</i>			
(i) Reserved	38,500	39,203	
(ii) Protected	22,990	22,832	
(iii) Unclassed	12,644	12,159	
TOTAL :	74,134	74,194	
4. <i>By composition :</i>			
(i) Coniferous	7,466	7,165	
(ii) Non-coniferous or broad leaved (including bamboo stands)	66,668	67,029	
TOTAL :	74,134	74,194	

¹Provisional

be diverted to non-forestry uses and in case of any inescapable diversion, it should be done with the concurrence of the states and the loss of forest should be adequately compensated by providing as far as possible, equivalent alternative land for afforestation. In view of this, the Government of India has enacted the Forest (Conservation) Act, 1980 to ensure that no reserved forest can be converted into any other type of forest and that no forest land can be used for any non-forest purpose without the prior approval of the central government. As such an Advisory Committee has been constituted to consider the diversion cases of the forest. Table 14.6 shows the classification of area under forest during 1977-78 and 1978-79.

Production of Wood

The production of industrial and fuel wood is an important indicator of the forest development in the country. The annual production of industrial and fuel wood, separately for coniferous and non-coniferous species, together with royalty received by the State Forest Departments during 1977-78 and 1978-79 is indicated in the following table.

TABLE 14.7
PRODUCTION OF INDUSTRIAL AND FUEL WOOD

Particulars	1977-78 ¹		1978-79 ¹	
	Quantity (lakh cubic meters)	Royalty ² receipt (Rs '000)	Quantity (lakh cubic meters)	Royalty ² receipt (Rs '000)
1. Industrial Wood				
(i) Coniferous . . .	9.3	65,100	11.7	1,10,894
(ii) Non-coniferous . . .	73.8	21,81,160	76.2	23,33,418
TOTAL : . . .	83.1	22,46,260	87.9	24,44,312
2. Fuel Wood				
(including wood for charcoal).				
(i) Coniferous . . .	0.2	Neg.	0.3	Neg.
(ii) Non-coniferous . . .	12.4	3,08,005	14.1	3,21,721
TOTAL : . . .	12.6	3,08,005	14.4	3,21,721

¹Provisional
²Actual market value of the major forest products is considerably higher than the royalty received by the state governments.

Minor Products

Apart from providing raw materials for pulp, panel products, match-wood and other wood-based industries, forests are also a source of number of useful minor products like bamboo, canes, kendu leaves, grasses, essential oils, medicinal plants, lac, resins, fatty oils and fats, gums, tanning materials, dyes, animal products, etc. Quite a number of these are valuable foreign exchange earners.

Table 14.8 gives the royalty received by the state forest departments for all minor forest products during 1977-78 and 1978-79.

TABLE 14.8
ROYALTY ON MINOR FOREST PRODUCTS

Particulars	(Rs '000)	
	1977-78 ¹	1978-79 ¹
1. Bamboo	1,94,342	2,07,073
2. Grazing and fodder	20,979	21,253
3. Other minor forest products	7,94,143	8,67,592
TOTAL :	10,09,464	10,95,918

¹Provisioanal.

**Man-made
Forestry
Development**

The afforestation programmes under man-made forestry form a very important component of the national programme for renewing forest resources. These programmes lay special emphasis on planting of fast growing species, particularly those of economic and industrial value for a large variety of raw materials needed for various national uses and wood based industries. There are various afforestation schemes under state plans and a total area of about 34 lakh million hectares had been brought under man-made plantations up to March 1979.

**Establishment
of Forest
Development
Corporation**

Considering the budgetary and financial constraints required for forest development in the country, it has become necessary to attract institutional Finance for the purpose as per the recommendation of the National Commission on Agriculture. Sixteen autonomous Forest Development Corporations in various states and union territories have so far been set up. Their main functions are logging, marketing timber and minor forest produce, raising new plantations and developing infrastructure to exploit forest resources through large scale investment in economically viable projects.

**Forest
Resources
Survey**

Central scheme relating to pre-investment survey of Forest Resources Survey aims at investigating the economic availability of raw materials for establishment and development of wood-based industries in selected areas of the country.

**Education
Research and
Training**

The Forest Research Institute and College at Dehra Dun, is the main centre for research in forestry and forest products and for imparting forestry education. Work on research development schemes is being carried out under the auspices of the Forest Research Institute and associated colleges.

To train Indian Forestry personnel in the modern business aspect of forest resources an Indian Institute of Forest Management was established at Ahmedabad in 1978 with the assistance of Swedish International Development Agency.

**Planning
Project
Formulation
Resources
Appraisal and
Evaluation**

A Planning Project Formulation Resources Appraisal and Evaluation Cell headed by the Additional Inspector General of Forests has been established in Forestry Division (Department of Agriculture). Major objectives of the cell are : (i) to guide social forestry programmes and to evolve a suitable methodology to secure involvement of the local people, (ii) to coordinate the activities of the State Forest Development Corporations, (iii) to appraise and evaluate the projects for State Forest Development Corporations and (iv) to prepare and negotiate projects for external assistance.

During 1980-81, seven of the 26 projects formulated and processed for external aid were finalised and agreements signed for implementation. These seven projects have attracted foreign investment of about \$ 114 lakh. Another \$ 20 crores expected to be invested with the finalisation of projects in the pipe line.

**Wildlife
Conservation**

The conservation of nature and wildlife received fresh impetus with the Prime Minister, for the first time, becoming the Chairman of the Indian Board for Wildlife. During 1980-81, some more National Parks and sanctuaries including the Silent Valley National Park in Kerala, the Desert Sanctuary in Rajasthan and the Marine National Parks of the coast of Gujarat and Tamil Nadu.

Social Forestry

A new Centrally sponsored Scheme 'Social Forestry' inducing 'Rural Fuelwood Plantations' is proposed to be introduced from 1980-81. 100 districts chronically deficient in fuelwood, have been selected in the country for raising quick growing fuelwood and fodder species. "A Tree For Each Child Programme" is also being introduced in the country for creating free consciousness in the children and providing them nutritive fruits.

IRRIGATION

The vulnerability of India's agriculture, owing to the vagaries of the monsoon, has made it imperative to accord irrigation a high priority in the national development plans. Over 1,037 major and medium projects were taken up between 1947 and 1979-80 of which over 563 have been completed and many other have started yielding partial benefits. The irrigation potential has more than doubled since the beginning of the First Plan. The total irrigated area in the country, about 2.26 crore hectares in 1950-51, rose to about 5.26 crore hectares in 1978-79. The total cropped area at the end of 1979-80 was about 17.50 crore hectares.

Growth and Utilization of Irrigation Potential

In 1951, major and medium projects irrigated 97 lakh hectares. By the end of 1979-80 an estimated additional potential of 1.69 crore hectares had been created. Table 14.9 shows the growth of irrigation potential and the corresponding utilization from major and medium projects since the advent of planning.

Irrigation and Multi-purpose Projects

Some of the major irrigation and multi-purpose projects are described briefly in the following paragraphs.

Nagarjunasagar (Andhra Pradesh)

The Nagarjunasagar project comprises the construction of a 1,450-metre long masonry dam with 3,414-metre long earthen flanks on the Krishna river near Nandikonda village, about 144 km from Hyderabad and two canals, one on each side of the river. The 204-km long right bank canal and the 179-km long left bank canal will together irrigate 8.67 lakh hectares. The dam has been completed and work on the canals is under way. An irrigation potential of 6.21 lakh hectares out of a total potential of 8.62 lakh hectares had been created by 1979-80.

Tungabhadra (Andhra Pradesh and Karnataka)

A joint project of Andhra Pradesh and Karnataka, the Tungabhadra project comprising a 2,441-metre long and 49.38 metre high dam on the Tungabhadra river, was completed in 1956. Work on the canals and distribution system has also been largely completed. Out of irrigation potential of 3.92 lakh hectares, a total irrigation potential of 3.17 lakh hectares had been created by the end of 1979-80.

Pochampad (Andhra Pradesh)

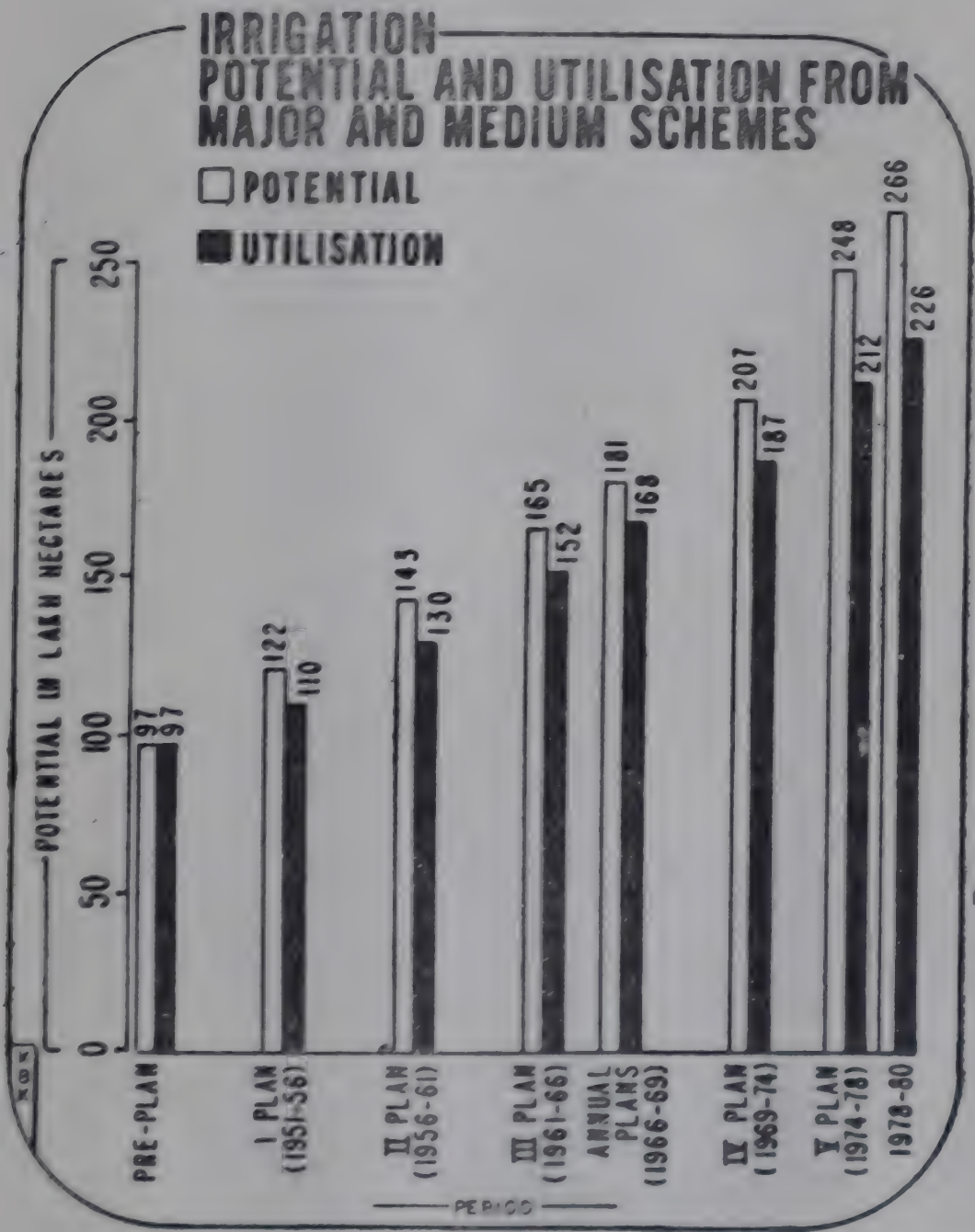
The Pochampad project in Andhra Pradesh envisages construction of an 812-metre long and 43-metre high masonry dam with earthen flanks across the river Godavari. There will be a 113-km long right bank canal to irrigate an area of 2.67 lakh hectares. Work on the dam and the canal is in progress. An irrigation potential of 1.76 lakh hectares had been created by 1979-80.

Gandak (Bihar and Uttar Pradesh)

Bihar and Uttar Pradesh are the participating states in the project. Nepal, under an agreement signed with India in 1959, also derives irrigation and power benefits from it. The irrigation potential of the project is 14.59 lakh hectares.

TABLE 14.9
(Major and Medium Projects)

	Additional potential at the end of				
	1st Plan	2nd Plan	3rd Plan	4th Plan	5th Plan
Potential	25	46	69	112	151
Utilisation	13	34	55	91	115



The 740-metre long barrage and appurtenant works were completed in 1969-70. The main western canal was opened in December 1972. Partial irrigation has commenced from the main eastern canal. The Nepal eastern canal was inaugurated in 1973. The project is to be completed during the Sixth Plan. An irrigation potential of 10.03 lakh hectares had been created by 1979-80 in Bihar and Uttar Pradesh.

*Kosi
(Bihar)*

The multi-purpose Kosi project in Bihar envisages irrigation, flood-control and other benefits. An agreement on the project was signed between India and Nepal in 1954 and revised in 1966. The irrigation potential of the project is 4.34 lakh hectares. Flood embankments under the project were completed in 1959.

The barrage near Hanumannagar in Nepal was inaugurated in 1965. The eastern Kosi canal system is practically complete except for the distribution system and drainage.

Four more schemes have been sanctioned under the second stage of the project. They are : a 20 mw power house, the western Kosi canal, the Rajpur canal and extension of the flood embankments.

The western Kosi canal project provides for the construction of a 112.65-km long main canal taking off on the right bank of the Kosi barrage at Hanumannagar. The first 35.2 km of the main canal lies in Nepal. The project, after completion, would irrigate 3.14 lakh hectares. The Rajpur canal scheme, envisaging construction of a branch canal of the eastern main canal, will irrigate an area of 1.25 lakh hectares. Out of an ultimate irrigation potential of 8.73 lakh hectares, potential of 4.64 lakh hectares had been created by the end of 1979-80.

*Kakrapara
(Gujarat)*

The Kakrapara project in Gujarat is the first phase of the development of the Tapi valley. A 621-metre long and 14-metre high weir near Kakrapara in Surat district was completed in 1963. Most of the earth-work on the canals and distributaries has been completed. An irrigation potential of 2.27 lakh hectares out of an ultimate potential of 2.28 lakh hectares had been created by 1979-80.

*Ukai
(Gujarat)*

The Ukai multi-purpose project in Gujarat consists of a 4,928-metre long and 68.6-metre high dam across Tapi river near the village Ukai. The project will irrigate 1.53 lakh hectares and generate 300 mw of power. Ukai dam and power house have been completed. An irrigation potential of 1.53 lakh hectares had been created by the end of 1979-80.

*Mahi
(Gujarat)*

The Mahi project in Gujarat has two stages. Stage I consists of a 796 metre long and 20.6-metre high masonry pick-up weir across the Mahi river near Wanakbori village. A 74-km long canal takes off on the right side to irrigate a total area of 1.86 lakh hectares.

Stage II envisages construction of a 1,430-metre long and 58-metre high composite dam across the river Mahi near Kadana to irrigate an area of 89,000 hectares in addition to area under Stage I. The work on Kadana is in an advanced stage of construction.

By 1979-80, a potential of 2.75 lakh hectares had been created.

*Bhadra
(Karnataka)*

The Bhadra multi-purpose project across the river Bhadra in Karnataka, when completed, will irrigate 1.06 lakh hectares of land and

generate 25 mw of power. An irrigation potential of 1,00,000 hectares had been created by 1979-80.

Upper Krishna
(Karnataka)

The Upper Krishna project in Karnataka consists of the Narayanpur dam across the Krishna river with a canal taking off from the left bank and the construction of a dam at Almatti. The project has started yielding benefits. An irrigation potential of 7,000 hectares had been created by 1978-79. Ultimate potential of the project is 4.08 lakh hectares.

Ghataprabha
(Karnataka)

The Ghataprabha Valley development scheme envisages harnessing of water of the river Ghataprabha for irrigation in Belgaum and Bijapur districts of Karnataka. It is proposed to be implemented in three stages. So far, two stages approved earlier are under execution. The third stage was approved in 1976. Stage I of the project envisages a masonry weir, 2,085-metre long and 9-metre high across the river Ghataprabha at Dhupdal, with a left bank canal 71 km long. It is practically complete. Stage II envisages construction of a composite dam, 5,275 metre long and 50 metre high at Hidkal and extension of Ghataprabha left bank canal from 71 km to 114 km. Stage II is practically complete. It will have potential of 1.78 lakh hectares. Stage III envisages raising of Hidkal dam and construction of a 197 km long right bank canal taking off from Hidkal dam. Out of the total potential of 3.17 lakh hectares, a potential of 1.47 lakh hectares had been developed by 1979-80.

Malaprabha
(Karnataka)

The Malaprabha project, a 154.6 metre long and 44 metre high masonry dam, will be constructed across the Malaprabha in Belgaum district of Karnataka and canal systems taking off from both flanks of the reservoir. The project has an ultimate potential of 2.13 lakh hectares. Out of this, a potential of 1.05 lakh hectares had been developed till the end of 1979-80.

Tawa
(Madhya Pradesh)

The Tawa project envisages the construction of a reservoir across the Tawa river, a tributary of the Narmada, in Hoshangabad district (Madhya Pradesh). The 1,627 metre long dam will be earth-cum-masonry type. On completion, the project will irrigate about 3.32 lakh hectares. The project is in an advanced stage of construction and part benefits have started flowing. A potential of about 1.75 lakh hectares has already been created.

Chambal
(Madhya Pradesh and Rajasthan)

The Chambal project is being jointly executed by Madhya Pradesh and Rajasthan. In the first stage, the Gandhi Sagar dam and its, 115 mw power station and the Kota barrage were completed. The Rana Pratap Sagar dam with a power house of 172 mw capacity was constructed in the second stage. The third stage comprises the construction of the Jawahar Sagar dam and a 99 mw power station. With the completion of all the three stages, the project will generate 386 mw of power. Out of the ultimate irrigation potential of 4.92 lakh hectares, a potential of 4.86 lakh hectares had been created by the end of 1979-80.

Bhima
(Maharashtra)

The Bhima project envisages construction of two dams, one on the Pawana river near Phagne in Pune district and the other across the Krishna river near Ujjaini in Sholapur district. The Pawana dam

will be 1319-metre long and 42-metre high. The Ujjaini dam will be 2,467-metre long and 56.4-metre high. The work on Pawana component of the project is complete. Ujjaini dam is nearing completion. The 139-km long main canal will take off from the left bank. The project will have an irrigation potential of 1.62 lakh hectares. A potential of 27,500 hectares had been created by the end of 1979-80.

*Jayakwadi
(Maharashtra)*

The Jayakwadi project envisages the construction of a 37-metre high earthen dam with a masonry spillway across the river Godavari in Maharashtra in the first stage. A 240-km long canal will take off from the left side to irrigate an area of 1.42 lakh hectares. The second stage of the project, envisages construction of a 133-km canal on the right side, a 30.5-metre high and 6,090-metre long dam across Sindphana river at Majalgaon and a right bank canal from Majalgaon dam. Another 1.36 lakh hectares would be irrigated when stage II is completed.

Out of an ultimate potential of 2.78 lakh hectares, a potential of 1,00,700 hectares was created by the end of 1979-80.

*Hirakud
(Orissa)*

The 4,801.2-metre long main Hirakud dam in Orissa, the world's longest, impounds 810 crore cubic metres of the Mahanadi waters. The project irrigates an area of 2.51 lakh hectares. Its present installed power generation capacity is 270.2 mw.

*Mahanadi Delta
Scheme (Orissa)*

The Mahanadi delta irrigation scheme, also in Orissa, is being executed to make use of the releases from the Hirakud reservoir. On completion, it will irrigate 5.62 lakh hectares. Out of this, an irrigation potential of 5.35 lakh hectares had been created till the end of 1979-80.

*Bhakra Nangal
(Punjab,
Haryana
and Rajasthan)*

A Joint venture of Punjab, Haryana and Rajasthan, the Bhakra Nangal project is India's biggest multi-purpose river valley scheme so far, completed at a cost of Rs 236 crores. It consists of a straight gravity dam, 518-metre long and 226-metre high, across the Sutlej at Bhakra, the 29-metre high Nangal dam, the 64-km long Nangal hydel channel, two power houses at Bhakra dam, two more power stations on the hydel channel at Ganguwal and Kotla with a total installed capacity of 1,204 mw, about 1,100-km of canals and about 3,400 km of distributaries. The Bhakra dam impounds 986.8 crore cubic metres of water. The canal system of the project is now irrigating 14.6 lakh hectares.

*Beas
(Punjab, Haryana
and Rajasthan)*

The Beas Project, another joint venture of Punjab, Haryana and Rajasthan, consists of (i) Beas Sutlej Link, (ii) the Beas Dam at Pong, and (iii) Beas Transmission System. The estimated cost of the Project including the Transmission Lines is Rs. 715 crores.

The Beas Sutlej Link project is mainly a power project with an installed capacity of 660 mw, with a provision for two extension units of 165 mw each. The civil works and conductor system (including Pondoh diversion Dam) have been substantially completed. The first unit was energised in October 1977 when the waters of the Beas river were put into Sutlej river at Slapper (Himachal Pradesh). All the four units have now been commissioned and work on the extension units has been taken up.

The Beas Dam at Pong, principally an irrigation project, is a 133-metre high earth-rockfill dam and has an installed capacity of 240 mw,

with a provision for extension of two units of 60 mw each. The dam was raised to its full height in June, 1974 when water was stored in the reservoir for regulated flow for irrigation in Rajasthan and some areas in Punjab.

n Dam
njab)

The Thein Dam Project, costing Rs 263.00 crores, envisages construction of a 147-metre high earthen dam across the river Ravi in Punjab and a power plant on its left bank with an installed capacity of 480 mw. It includes UBDC Hydel Project stage II which is to give an additional power of 45 mw. The reservoir behind the dam is to have an area of about 31.5 sq. miles and a live storage capacity of 1.9 MAF. It is expected to irrigate 3.48 lakh hectares.

In an inter-state meeting taken by the Prime Minister on 3 October 1977, it was decided that the project would be implemented by Punjab State and that an inter-state control board would be set up to take policy decisions and give directions during construction and operation stages.

asthan Canal
asthan)

The Rajasthan Canal Project will provide irrigation facilities to the north-western region of Rajasthan which is a part of the Thar desert. The project, which will use waters from Pong dam, consists of the 204-km long Rajasthan feeder canal (with the first 167-km in Punjab and Haryana and the remaining 37-km in Rajasthan) and the 445-km long Rajasthan main canal lying entirely in Rajasthan.

The first stage of the project consists of the construction of the feeder canal in full and 189-km of the main canal and 3,000 km long distribution system. The feeder and the main canal have been completed.

The second stage covers the construction of the remaining 250-km of the main canal and the 3,500-km long distribution system. The work on stage II has also been started and is scheduled to be completed by 1985-86. The project will ultimately irrigate about 12.54 lakh hectares. An area of 5.40 lakh hectares was brought under irrigation command by March 1980, of which 3.41 lakh hectares had actually been irrigated by March 1980.

bikulam
Nadu
rala)

This joint venture of Tamil Nadu and Kerala envisages the integrated harnessing of eight rivers, six in the Annamalai Hills and two in the plains. The scheme will irrigate about 1.01 lakh hectares and also have an installed power generating capacity of 185 mw. A potential of 88,220 hectares had been created up to the end of 1979-80.

ahayak
radesh)

Sarda Sahayak Project envisages construction of (i) a 1,003-metre long barrage across the river Ghagra, (ii) a link channel of 28-km length, (iii) a 811-metre long barrage across the river Sarda, (iv) a feeder channel of 260-km length involving construction of two major aqueducts over Gomti and Sai and (v) remodelling of 6,450-km of distribution system and construction of 2,570-km of new channels. The works are being executed in five stages. Stage I and II have been practically completed and commissioned.

Out of an ultimate irrigation potential of 15.82 lakh hectares, 10.69 lakh hectares potential had been created by the end of 1979-80.

adesh)

The Ramganga, a major tributary of the Ganga in Uttar Pradesh, is being tamed with a 625-metre long and 127.5-metre high earth and

rock-fill dam and a 72-metre high saddle dam in the Garhwal district. The project will irrigate 5.91 lakh hectares, have an installed power capacity of 198 mw, supply 200 cusecs of water for the Delhi water supply scheme and reduce the intensity of floods in central and western Uttar Pradesh. The project is nearing completion; the dam was completed in June 1974. An irrigation potential of 5.91 lakh hectares had been created by the end of 1979-80.

Farakka
(West Bengal)

The Farakka project in West Bengal was taken up for the preservation and maintenance of Calcutta port and for improving the navigability of the Hooghly. It consists of a barrage across the Ganga at Farakka, a barrage at Jangipur across the Bhagirathi, a 39-km long feeder canal, taking off from the right bank of the Ganga at Farakka and falling into the Bhagirathi below the Jangipur barrage and a road-cum-rail bridge over the Farakka Barrage.

Construction work was started in 1963-64; the two barrages and the road-cum-rail bridge have been completed. Following the Indo-Bangladesh agreement of 18 April 1975, the scheme was commissioned on 21 April 1975. Work on the navigation structures is in progress.

Mayurakshi
(West Bengal)

The Mayurakshi project in West Bengal comprises the Canada dam, 640-metre long and 47.24-metre high, and irrigates about 2.51 lakh hectares of land. The hydro-electric plant produces four megawatt of power. The project is partially complete. An irrigation potential of 2.51 lakh hectares was created by the end of 1978-79.

Kangsabati
(West Bengal)

The Kangsabati project in West Bengal envisages the construction of earthen dams, connected together by intermediate dykes, on the Kangsabati and Kumari rivers. Its canal system would cross the Silabati, Bhairoh Banki and Terafeni rivers, on which three pick-up barrages will be constructed. The project will benefit an area of 4.02 lakh hectares. A potential of about 3.39 lakh hectares had been created by 1979-80.

Damodar Valley Project
(West Bengal and Bihar)

The Damodar Valley Project was conceived for the unified development of irrigation, flood control and power generation in West Bengal and Bihar. The project is administered by the Damodar Valley Corporation (DVC), established in 1948. The DVC has completed multi-purpose dams and hydel power stations at Tilaiya, Konar, Maithon and Panchet, a 672-metre long and 11.58-metre high barrage at Durgapur, 2,495-km of irrigation canals and three thermal power houses at Bokaro, Chandrapura and Durgapur. The irrigation potential of the project is about 5.15 lakh hectares and its installed power generating capacity is 1,181 mw, made up of 1,077 mw of thermal and 104 mw of hydel power. A potential of 4.5 lakh hectares had been created by the end of 1979-80.

**FLOOD
CONTROL**

After the extremely severe floods experienced in 1954, it was considered that efforts in the field of flood control need to be intensified on the basis of a well planned programme. Accordingly, National Flood Control Programme was launched in 1954. The programme was divided into three phases—immediate, short-term and long-term. The immediate phase was devoted to intensive collection of data and execution of emergent flood protection measures. The short-term programme which was roughly to coincide with the Second Five Year

Plan, envisaged the construction of embankments, protection of some towns, raising of villages etc. The long-term phase envisaged the construction of storage reservoirs stabilising the benefits of the works already carried out as well as taking up of additional works of embankments, river draining etc.

Flood Control Bodies

At the state level, technical advisory committee examines the proposals, approved by the state flood control boards which also lay down policies at the state level. At the national level, major schemes are examined in detail by the Central Water Commission/Ganga Flood Control Commission and then approved by the Planning Commission. The Central Flood Control Board formulates policies at national level.

Because of the complexity and magnitude of the flood problem in the Brahmaputra valley and north Bengal flood control commissions have been set up by the Governments of Assam and West Bengal for implementing a comprehensive plan of flood control. The Government of India has constituted the Brahmaputra Flood Control Board and the North Bengal Flood Control Board to lay down policies, approve schemes and fix priorities. The Ganga Flood Control Board and the Ganga Flood Control Commission have also been constituted by the central government to prepare a comprehensive flood control plan for the Ganga basin and co-ordinate its implementation by the concerned states.

Rashtriya Barh Ayog

Taking into account the magnitude and complexity of the flood problem in the country, considerable experience that has been gained in planning, implementation and performance of the flood control measures during the last 20 years and the advancement of technology not only in India but also in foreign countries, the Government of India constituted the *Rashtriya Barh Ayog* in July 1976. This Ayog has conducted in-depth study of the present approach and programmes of flood control measures and evolve a coordinated, integrated and scientific approach to the flood control problem and draw up a National Plan fixing priorities. The report is being processed for implementation.

Progress

Since the commencement of the National Flood Control Programme in 1954, nearly 11,870 km of embankments, 21,370 km of drainage channels and 297 town protection schemes and raising of the level of 4,700 villages had been completed by the end of 1979. These works carried out at a cost of Rs. 975 crores, have afforded reasonable protection to an area of nearly 111.5 lakh hectares. In addition a number of reservoir projects have been completed which have helped to mitigate the flood problem in the river channels downstream. Notable among these are Hirakud Dam on river Mahanadi, Konar, Maithon, Panchet and Tilaiya Dams on river Damodar, Bhakra on river Sutlej, Pong on river Beas and Ukai on river Tapi. The central government has also set up a Flood Forecasting Organisation to issue advance warnings about impending floods so as to alert the agencies concerned with rescue and relief to organise themselves and also to put into action the flood fighting and maintenance organisations to gear up to the emergency. The Central Flood Forecasting Organisation with headquarters at Patna has three circles at Gauhati,

Maithon and Delhi with divisions at Dibrugarh, Gauhati, Jalpaiguri, Asansol, Patna, Lucknow, Jhansi, Bhubaneswar, Hyderabad, Delhi, Gandhinagar and Surat. The warnings issued by control rooms under these divisions have been found to be extremely useful to the public.

In the Sixth Plan (1980-85) the outlay proposed for flood control was Rs. 1,045.10 crores as compared to Rs 345.27 crores in the Fifth Plan. The actual expenditure during 1978-79 amounted to Rs 171.98 crores. The anticipated expenditure during 1979-80 was about Rs 156.49 crores. The area protected during four years of the Fifth Plan is estimated to be 19 lakh hectares and up to March 1980 was 111.5 lakh hectares.

Flood of 1980

During the rainy season of 1980, some parts of the country experienced very heavy rainfall causing floods and drainage congestion. The rainfall was exceptionally heavy in the Saurashtra-Kutch region of Gujarat where as much as 375 to 500 mm in a single day was recorded as against an average annual of 500 to 600 mm. Unprecedented flash floods also occurred in the Vamsadhara river in the Srikakulam district in Andhra Pradesh and in the Koraput district in Orissa. Successive flood waves in the Ganga and its tributaries seriously affected 46 districts of Uttar Pradesh. Floods caused considerable damage in Assam, Bihar, West Bengal, Haryana, Kerala, Manipur and parts of Himachal Pradesh, Jammu and Kashmir, Maharashtra, Meghalaya, Rajasthan and Sikkim.

These floods caused large scale damage to crops, property and loss of life. According to a preliminary assessment, the total damage to crops, houses and public utilities has been estimated at 854 crores. An area of 114 lakh hectares and a population of nearly 5.43 crores were affected. The fury of floods and rains took a toll of 1,868 human lives and 59,699 heads of cattle.

ANTI-SEA EROSION

India has a coastline of 6,100 km. In all the seven states which share the sea front, the problem of sea erosion exists in various degrees. It is, however, of a serious nature in a stretch of about 320 km of 560 km coastline in Kerala. Protection measures have been taken up since the end of the First Plan and by the end of the Fifth Plan a length of 189 km had been protected at a cost of about Rs 28 crores. Out of this an amount of Rs 6.42 crores has been provided as special assistance by the central government. Of this Rs 10 crores were spent during the Fourth Plan. During 1978-79, an expenditure of Rs 6.76 crores had been incurred. By March 1980 about 227 km had been protected at a cost of Rs. 39.25 crores. It has been proposed by the state governments to protect the entire affected length of 320 km by 1985.

CENTRAL ORGANISA- TIONS

There are five central organisations, which are responsible for planning, development and research in the field of irrigation.

The Central Water Commission is responsible for initiating and co-ordinating, in consultation with state governments, schemes for control, conservation and utilization of water resources for purposes of irrigation, navigation and flood control throughout the country.

The Central Board of Irrigation and Power, constituted in 1927 initiates fundamental research in the fields of irrigation and power and co-ordinates the work of research stations, established in different parts of the country. The Board also disseminates the results of the studies and information on irrigation and power development both inside the country as well as abroad.

The third organisation is the Central Water and Power Research Station at Khadakwasla near Pune. It is the premier research station in south-east Asia dealing with a variety of subjects in the field of water resources development. Since its inception, 62 years ago, the research station has achieved a high degree of specialisation in a number of disciplines. It has also been recognised as the regional laboratory for the Economic and Social Commission for Asia and the Pacific (ESCAP).

Two more organisations, the Minor Irrigation Division including Central Ground Water Board and the Command Area Development Division, were transferred to the Ministry of Irrigation from the Ministry of Agriculture in August 1980. The minor irrigation division acts as the central limb of the state minor irrigation department and coordinates the planning and programming of minor irrigation schemes (both flow and lift having a culturable command area up to 2,000 hectares) in the States. It also sponsors schemes with Central assistance for specified purposes/programmes.

The concept of Command Area Development was borne in the beginning of the Fifth Five Year Plan when, it was realised that a multi-disciplinary organisation is required both at the Centre and the States to coordinate the work of construction of field channels, field drains, land levelling, land shaping etc. and provision of other infrastructure facilities like command area roads, marketing facilities for the produce, credit facilities, fertiliser and seed inputs etc. The work of the Command Area Development is executed through the States as a Centrally sponsored programme.

The irrigated area in the country has increased from 2.2 crore hectares to 5.2 crore hectares, food production from 5.00 crore tonnes to over 13.00 crore tonnes and the power generating capacity from 2,000 mw to 26,000 mw. This phenomenal progress in the field of irrigation, agriculture and power has been accompanied by corresponding growth and development of expertise and experience. To share this experience and expertise with other developing countries the Government of India set up the Water and Power Development Consultancy Services (India) Limited (WAPCOS) in 1969. Presently WAPCOS is registered with several international funding agencies like World Bank, Asian Development Bank (ADB), United Nations Development Programme (UNDP), Food and Agricultural Organisation (FAO), Kuwait Fund for Arab Economic Development, Arab Bank for Economic Development in Africa (BADEA), International Fund for Agricultural Development (IFAD), etc.

The WAPCOS provides consultancy services for planning and development of irrigation, drainage, flood control and river training works, ground water resources, irrigated agriculture, land reclamation, drinking water supply, generation and transmission of hydro and thermal power, resettlement of transmigrants, etc. The range of services provided is comprehensive inter-disciplinary coverage of all aspects of consultancy ranging from feasibility studies, detailed investigations, designs, construction, supervision, operation and maintenance. These services are provided by the Company through its own personnel and through the pooled expertise available from its constituents and various other specialised organisations of the central and state governments. The principal constituents of the Company include Central Water Commission, Central Electricity Authority, Geological Survey of

Agreement.

India, Survey of India, India Meteorological Department, Central Ground Water Board, Indian Council of Agricultural Research, National Institute of Community Development, etc.

The countries where WAPCOS has rendered and is rendering consultancy services include Afghanistan, Bhutan, Burma, Fiji Islands, Indonesia, Iraq, Laos, Malaysia, Mauritius, Nepal, Nigeria, Philippines, Sri Lanka and Tanzania. In addition, WAPCOS in association with World Bank, Food and Agriculture Organisation and International Fund for Agricultural Development has been engaged in preparation of feasibility-cum-appraisal reports for Composite Irrigation Projects in Maharashtra and Madhya Pradesh, Subernarekha Project covering Bihar, Orissa and West Bengal and Ganga Canal Modernization Project in Uttar Pradesh.

INTER- NATIONAL AGREEMENTS

Indus Commission

India and Pakistan signed the Indus Water Treaty on 19 September 1960, fixing and delimiting the rights and obligations of the two countries with regard to the use of the waters of the Indus river system. It came into force with retrospective effect from 1 April 1960. As envisaged in the treaty, a permanent Indus Commission, representing both the governments, has been set up to establish co-operative arrangements for the implementation of the treaty.

Indo-Bangladesh Joint Rivers Commission

The Indo-Bangladesh Joint Rivers Commission was established in 1972 to maintain liaison between the two countries in order to ensure the most effective joint efforts in maximising the benefits from common river systems, to carry out surveys of the river systems shared by them and to formulate joint flood control projects. The Commission has taken up the study of many schemes of mutual benefit.

In pursuance of the Agreement of November 1977 between India and Bangladesh on the sharing of the Ganga water at Farakka and on augmenting its flows, the Commission was entrusted the investigation and study of schemes relating to the augmentation of the dry season flows of the Ganga, proposed by either Government to find an economical and feasible solution. The two countries exchanged their respective proposals in March 1978. India proposed construction of Brahmaputra-Ganga Link Canal, supplemented at the appropriate stage by three storage reservoirs on the Brahmaputra-Barak rivers as the best solution to the problem. The Bangladesh proposal envisaged construction of storage in India and Nepal alongwith an international navigation canal in the Nepal Terai through the Siliguri area of India to Bangladesh.

Bangladesh appeared to have prima-facie objections to the Indian proposal and before the study of the two schemes was taken in hand, wanted that Nepal should be made a member of the Indo-Bangladesh Joint Rivers Commission or of its Committee to study the Bangladesh proposal.

India, however, did not object to the study of the Bangladesh proposal and desired, that a comparative study be made of both the proposals. Regarding the storages in Nepal, India suggested that this study could commence with the data available with the two countries, and Nepal approached, later on, if necessary to get any further data necessary or conduct investigations. In India's view, it was not necessary that Nepal should be made a member of the Joint Rivers Commission, a bilateral body, or of the Committee to study Bangladesh Commission, under the provisions of the bilateral Ganga Waters

Agreement.

The differences remained unresolved, and the Commission could not even commence a study of the two proposals. The mandate to the Joint Rivers Commission expired on 4 November 1980 and the matter is no longer with the Commission.

The sharing of the Ganga Waters at Farakka, as per the agreement of November 1977 was satisfactorily accomplished during January-May 1978, 79 and 1980.

The Agreement provides for a review of the working, impact, implementation and progress of both the short-term and long-term arrangements at the end of three years. Inter Governmental meetings for this purpose were held in November 1980 and January 1981 and the review is expected to be completed at a third meeting in February 1981.

Cooperation with Hungary

The Fourth meeting of the Joint Working Group on Irrigation of the Indo-Hungarian Joint Commission was held in New Delhi on 14 November 1980 and reviewed the progress on the decisions taken in the preceding meetings of the Working Group. It emphasised further follow up action on the remaining items.

A 3-Member team was deputed to Hungary to study the flood problems and Hungarian flood fighting and flood forecasting organisation and equipment and the possibilities of adapting their system to our requirements, particularly in Delhi.

Cooperation with USSR

A Team of Soviet specialists visited India in February and March 1980 for exploring the possibilities of setting up an enterprise in Gujarat for the manufacture of prefabricated items for construction of canal structures on dams and canal linings. On the conclusion of the visit a protocol was signed containing preliminary technical proposals for setting up the enterprise.

An Indian delegation visited Soviet Union in June 1980 to study plants for the manufacture of prefabricated components as well as the Design Institutes and work-sites to acquaint with the techniques of prefabricated construction to enable the Government of India to decide on the setting up of an enterprise in Gujarat for the manufacture of prefabricated structures.

The Sixth Session of the Indo-USSR Joint Commission for Economic, Scientific and Technical Cooperation was held in New Delhi on 22 and 23 January 1981. The protocol signed at the conclusion of this session outlined the possible areas of cooperation between the two sides in the fields of physical Model Testing for hydraulic structures and biological control of submerged aquatic weeds. The meetings of the Working Group on Irrigation were also held in New Delhi on 16 and 20 January 1981. Apart from the abovementioned items it also considered the two proposals regarding cooperation in the preparation of a feasibility study for establishment in India of an enterprise for the production of canal structures and canal lining and in using the directional blasting techniques on an experimental basis for the construction of dams in India.

Development of the rural areas has been one of the paramount concerns of the successive five year plans. Beginning with community development programme in the early 50's which helped to establish a net-work of basic extension and development services in the villages, thereby creating awareness in the rural communities of the potential and means of development which made quicker adoption of major technological advances later in the mid 60's in agriculture possible, reinforced with abolition of intermediary landlords and reform of land tenure system, the investments in the successive five year plans have led to the creation of essential physical and institutional infrastructure of socio-economic development in many rural areas. Later, realising that the benefits of various development programmes were being mostly taken away by those better endowed in terms of land resources, programmes specifically designed for the development of small and marginal farmers and the landless and agricultural labourers were taken up in the early 70's. A special programme for the development of drought prone areas was introduced in the mid 70's and a programme of development of desert areas in the late 70's. A programme of 'food for work' was started in 1977 to provide opportunities of work for the rural poor particularly in slack employment periods of the year which would at the same time create durable community assets. With a view to removing regional disparities, particularly in less endowed or disadvantaged areas, like the hill and tribal areas, special sub-plans of development were introduced. A minimum needs programme was designed to secure to the rural areas within a reasonable time-frame certain basic amenities in the field of education, health, drinking water, electrification, roads and house-sites. Special financial and fiscal concessions, credit on softer terms and subsidies have also been made available to under developed areas to attract increased industrial investment.

INTEGRATED RURAL DEVELOPMENT PROGRAMME

A number of programmes like the Small Farmers and Marginal Farmers Development Agencies (SFDA), The Drought Prone Areas Programme (DPAP) and the Command Area Development Authority (CADA) have been operating in the country—some for as much as the last ten years and the others introduced recently—aimed at improving the economic conditions of the rural poor. None of these programmes covered the whole country, though a large number of blocks in the country had more than one of these programmes operating simultaneously in the same area for the same target group. This territorial overlap combined with the different funding patterns of these programmes, not only created considerable difficulties in effective monitoring and accounting, it often blurred the programme objectives. Though these special programmes did bring about considerable improvement in the living conditions of the poorer people it became clear that the dimensions of rural poverty in India were such that a far more ambitious programme was required to remove the more degrading forms of rural poverty. With the objective of raising the poorest families in the rural areas above the poverty line by giving them income generating assets and access to credit and other inputs, a new

programme known as the Integrated Rural Development Programme (IRDP) was launched in 1978-79. This programme aims at reduction of unemployment in the rural areas and provisions of assets and inputs to the rural poor for enabling them to rise above the poverty line on a lasting basis.

Objective

The IRD programme is aimed at a target group consisting of the poorest among the poor. The target group includes small and marginal farmers, agricultural and non-agricultural labourers, rural artisans and craftsmen, scheduled castes and scheduled tribes and in fact all persons who live below the poverty line (families of about 5 persons with an annual income below Rs 3,500). Of the 35 crore people below the poverty line in the country, around 30 crore are in the rural areas. The benefits under this programme are to flow exclusively to this target group. The primary objective of this programme is to raise the incomes of the families of the rural poor so that they go above the poverty line. A significant increase in the income of these families is to be brought about through generating opportunities of employment for them and also by giving them productive assets and resources. The twin objectives of raising incomes and generating employment are to be achieved through investment in agriculture and ancillary occupations, cottage and small-scale industries and in practically any viable economic activity which suits the beneficiary family. Under the IRD programme there is no pre-determined sectoral allocation and the investments made in various economic activities are to be governed by the interest shown by the beneficiary in the activity and its acceptability to the banking institutions. Agriculture, animal husbandry, fisheries, forestry, rural and cottage industries and commercial and services activities are eligible items for assistance under the programme.

Coverage

The IRD programme was initially taken up in 2,300 blocks in the country. The programme was being extended every year at the rate of 300 new blocks. Recognising that rural poverty and unemployment were widespread, a major policy decision was taken to extend the benefits of the programme to the target group families in all the 5,011 development blocks with effect from 2 October 1980. The Small Farmers Development Agency (SFDA) programme, which was under implementation in selected areas has also been merged with the IRD programme with effect from 2 October 1980. Similarly the Special Livestock Production programme which is presently in operation in 21 States and 4 union territories has also been merged with the IRD programme.

Financial Allocation

Along with the extension of IRD programme to all the blocks in the country, the financial allocation under the programme has also been rationalised. Earlier, different blocks had different financial allocations ranging from Rs 2.00 lakhs per block to Rs 10 lakhs per block. From 1980-81 onwards all the blocks would be provided with a uniform allocation of Rs 5 lakhs per block. This allocation is to be shared between the centre and the states on 50 : 50 basis.

During the Sixth Plan period, assistance under this programme is to be provided to 150 lakh families. On an average, at least, 3,000 families would be directly assisted under this programme in each block, over a full five year period.

Financial Assistance

The IRD programme offers assistance for financing a large variety of economic activities. The programme envisages the identification of beneficiaries on the basis of objective criteria and the identification is to be done on the basis of proper inquiry by the implementing agencies. Presently, the objective is to cover at least 600 families in each block in a year. Of these, approximately 400 families would benefit through agriculture and related activities. About 100 families would be covered through village and cottage industries and another 100 families would be assisted in the services sector in a year. This proportion would vary from area to area on the basis of the actual conditions obtaining in each area. After identifying each individual household, appropriate economic activities would be identified in consultation with the beneficiary concerned and suitable bankable schemes would be drawn up. The capacity of the beneficiary to take risks, his existing resources base and his managerial ability are to be considered before schemes are drawn up. The IRD programme is financed partly by subsidy and partly by bank loans. Nearly 2/3rds of the resources required for implementing the programme have to come from the co-operative and commercial banks. Since most of the target group families are not in a position to offer security cover for loans to be advanced by the banks, the banking institutions have to adopt a very positive attitude if the scheme is to make a success.

Implementation

The authority to sanction schemes under the IRD programme has been delegated to the state governments. The block level plans are approved by a state level coordination committee wherein the Ministry of Rural Reconstruction is also represented. The coordination committees meet periodically and review the implementation of the programme in the states and offer necessary direction for accelerating the implementation of the programme.

The implementation of the programme in the field is being done through the district level rural development agencies and block agencies. The national policy is to have one rural development agency, a society registered under the Societies Registration Act on the SFDA pattern, in every district. Wherever such agencies exist, the implementation of the programme has been entrusted to these agencies. In the districts where such agencies do not exist, the state governments have been advised to set up new district level agencies. Though the Drought Prone Areas programme and other rural development programmes would retain their separate identity, the state governments have been requested to entrust the implementation of these programmes also to the same district level agency implementing the IRD programme. Since the IRD programme envisages preparation of a comprehensive plan for every block, a three-member planning team at the district level comprising an economist/statistician, a credit planning officer and a small and cottage industry officer, is to be set up as a part of the district rural development agency.

Small Farmers Development Agencies Programme

The Small Farmers Development Agencies Programme (SFDA) initiated in 87 project areas during the Fourth Plan with a view to reaching the benefits of economic development to the weaker sections in the rural areas, continued to operate during the Fifth Plan, the number of projects rising to 168 covering 1,818 blocks all over the country. All these projects have been allowed to continue upto the end of 1981.

Sixth Plan, with an allocation of Rs. 2.50 lakhs per block per annum.

The main emphasis in these projects has been on crop husbandry which includes intensive agriculture, multiple cropping, introduction of high yielding varieties, horticulture, development of minor irrigation, soil conservation, land shaping, land development etc., with emphasis on adoption of dry farming practices and water harvesting methods in the rainfed areas. Subsidiary occupations like milk production, poultry, piggery and goat and sheep rearing are also undertaken by the agencies.

Functions

The projects under SFDA function as catalytic agents. They extend subsidy to small and marginal farmers up to 25 per cent and agricultural labourers upto 33-1/3 per cent of the capital cost of investment. The subsidy accruing to the tribal is 50 per cent. For community minor irrigation schemes, the subsidy is 50 per cent. The balance of the amount is to be found out of institutional sources. The subsidy is released to the financing institutions or to the supplier of service goods. The total subsidy for which an individual beneficiary is eligible is limited to Rs 3,000. This limit has been raised to Rs 5,000 in the case of scheduled tribes.

During the Fifth Plan, the SFDA projects were advised to identify small and marginal farmers and agricultural labourers belonging to the scheduled castes and scheduled tribes in the same proportion as their population is to the total population in the project area. Under the animal husbandry programmes, the first priority is accorded to the agricultural labourers. In case sufficient number of agricultural labourers are not available or do not come forward for taking up these programmes, the cases of the marginal farmers and the small farmers are taken up for consideration.

Financial Allocation

The funding of the programme is to be shared between the centre and the state governments on 50 : 50 basis with effect from 1 April 1979. An outlay of Rs 750 crores has been approved towards central share during 1980-85 Plan. Each block would be provided an allocation of Rs 5 lakhs in the first year, Rs 6 lakhs in the second year and Rs 8 lakhs per annum during the remaining three years of the Sixth Plan. Each block is expected to lift 3000 families above the poverty line over a period of 5 years. Thus about 150 lakh families are expected to be brought above the poverty line by 31 March 1985. The SFDA was merged with IRDP from 2 October 1980 and the latter extended to cover all the blocks in the country.

Schemes for providing assistance to farmers having land holding between 2 to 4 hectares for minor irrigation works within and outside the special programmes were started during 1979-80 and have been continued for the year 1980-81. The former has been discontinued with effect from 1 April 1981. The latter would become a part and parcel of IRDP when it becomes fully operational throughout the country.

Beneficiaries

Up to August 1980, the agencies have reported identification of 0.98 lakh participants of which 0.47 lakh have been enrolled as members of the cooperative societies. During 1980-81 (up to August 1980) 1.49 lakh participants had received benefit under this programme. The short-term loans disbursed by cooperative institutions

during this period amounted to Rs 5.80 crores, medium-term loans Rs 2.66 crores and long-term loans Rs 4.17 crores. Commercial banks extended short-term credit of Rs 0.74 crore and term-loans of Rs 6.60 crores. The release made by the Government of India out of central share of this year, upto October, 1980 amounted to Rs 4.44 crores and the agencies have reported an expenditure of Rs 8.03 crores up to August, 1980.

Under the scheme of subsidy of small farmers/marginal farmers outside the special programme areas, a sum of Rs 5.00 lakhs had been released as on 31 December 1980.

**Special
Livestock
Production
Programme**

The special livestock production programme initiated in the year 1975-76 aims at providing greater employment opportunities to the weaker sections and the rural masses. This programme continues to be in operation in 21 states and 4 union territories.

The programme is being implemented by the states on a subsidy-cum-loan basis. The loans are arranged through institutional sources. The centrally sponsored scheme for cross-breed calf-rearing, provides feed subsidy at the rate of 50 per cent to small and marginal farmers and 66 2/3 per cent to agricultural labourers. Under the central sector scheme for the establishment of poultry, piggery and sheep production units, subsidy is given at the rate of 25 per cent to small farmers and 33 1/3 per cent to marginal farmers and agricultural labourers and 50 per cent to the members of scheduled tribes. The unit size of poultry, piggery and sheep has been raised so as to provide gainful employment opportunities to the weaker sections of the society.

The expenditure under this programme is being shared between the central and state governments on a 50.50 basis while it is fully met by the central government in respect of union territories. A provision of Rs 6.00 crores exists in the budget of the Union Ministry of Rural Reconstruction for this programme. It has been decided to merge this programme with Integrated Rural Development Programme (IRDP) and funds for the implementation of this programme would be made available out of the budget of the IRDP with effect from 1 April 1981.

**Drought
Prone Areas
Programme**

The Drought Prone Areas Programme (DPAP) aims at long term development of areas frequently affected by drought through integrated development of local resources in agriculture and allied sectors. The programme seeks to raise the productive capacity of these areas in order to ensure sustained income and employment, particularly, to the vulnerable sections of the rural society. It, thus, seeks to do away with the need for scarcity relief and create a potential within these areas to cope up with such natural hazards.

The drought prone areas are identified on the basis of factors such as high frequency of drought, low and/or erratic distribution of rainfall, less assured irrigation facilities etc. The programme now covers 557 community development blocks in 74 districts of 13 states.

Since the Fifth Plan, the emphasis of the programme has been on restoration of a proper ecological balance, development and management of irrigation resources, conservation of soil and moisture, afforestation and pastures and development of livestock and dryland agriculture. As the major problems of these areas are due to serious and persistent disturbance of the ecological balance, due emphasis is given for improvement of range lands, introduction of controlled

grazing, afforestation, shelter belts and wind-breaks, stabilisation of sand dunes etc. As these areas have a built-in advantage for dairy development, cattle and sheep development is given adequate importance.

During 1979-80, an expenditure of about Rs 19 crores was incurred on this programme till September 1979. Irrigation potential of 16,200 hectares was created, 1.54 lakh hectares of land was treated with soil and moisture conservation measures and 53,000 hectares of land was brought under improved pastures and afforestation. 3,294 milch animals were distributed to the families of the weaker sections, 181 milk societies and 26 sheep societies were established. About 4.92 lakh families were assisted of which 1.82 lakhs belonged to scheduled castes and about 60,000 to scheduled tribes. Employment of 129 lakh mandays was generated.

It has been decided to continue the programme during the Sixth Plan and allocations to projects have been made for 1980-81 on the basis of Rs 15 lakhs per annum per block. This allocation is shared equally between the central and the state governments.

Desert Development Programme

The Desert Development Programme started during 1977-78 is operating in 128 blocks covering the hot arid desert regions in 11 districts of Rajasthan (Ganganagar, Bikaner, Churu, Jhunjhunu, Sikar, Nagaur, Jodhpur, Jaisalmer, Barmer, Jalore and Pali), 4 districts of Haryana (Hissar, Bhiwani, Rohtak and Sirsa), 3 districts (Banaskantha, Mehsana and Kutch) of Gujarat and the cold arid desert in the Ladakh region of Jammu and Kashmir, Spiti sub-division of Lahaul and Spiti district of Himachal Pradesh. The areas in the hot arid zone have been identified on the basis of analysis of trend of variation of rainfall and temperature, the moisture index parameters and the observable arid region characteristics. Administered through DPAP/SFD agencies the Desert Development programme aims at the integrated development of desert areas by increasing the productivity, income level and employment opportunities for the inhabitants through optimum utilisation of physical, human, livestock and other resources. The activities under the programme are based on the recommendations of the National Commission on Agriculture (interim report) on desert development.

Under this programme since its inception in 1977-78, upto March 1980, an expenditure of Rs 2,321 crores was incurred. This has mainly been on schemes of afforestation, water harvesting, rural electrification and animal husbandry. The central aid for the programme rose from Rs 610 lakhs in 1977-78 to Rs 731 lakhs in 1979-80. The allocation during 1980-81 for the desert development programme is Rs 800 lakhs.

Integration of Women in Rural Reconstruction

As women form a large segment of the work force in rural areas and the status of rural families equally depends on the economic role played by them, a section has been created in the integrated rural development division of the Ministry to strive for greater involvement of women in the on-going programmes of rural reconstruction. It examines various programmes and schemes to identify the areas which concern rural women and prepares appropriate guidelines for the state departments and union territories so that the rural women are kept in focus while implementing these programmes.

NATIONAL RURAL EMPLOYMENT PROGRAMME

The problem of employment in rural areas is mainly of seasonal un-employment and under-employment. Fuller employment opportunities for the rural work force have to be found within the agricultural and allied sectors, through intensification and diversification of agriculture based on expansion of irrigation and improved technology. However, the very dimensions of the problem call for a multi-pronged strategy which aims, on the one hand, at resource development of vulnerable sections of the population, and on the other, provides supplementary employment opportunities to the rural poor, particularly, during lean periods, in a manner which would at the same time contribute directly to the creation of durable assets for the community. It was in this context that the Food for Work Programme was conceived in the year 1976-77. The basic objectives of the programme were to generate additional employment in rural areas through utilisation of available stocks of foodgrains and to create thereby durable community assets which could strengthen the infrastructure in rural areas for socio-economic development.

During the three year period (1977-78 to 1979-80), large number of community assets in the rural areas were created under the programme which definitely created an impact on the quality of life in the villages all over the country. A statement indicating the community assets created under the programme during this period is given in table 15.1.

Benefits

Besides being successful in achieving its basic objectives, the programme resulted in many other benefits to the rural poor like price stabilisation of foodgrains, ensuring minimum wages to the workers and thus increasing their income and improving their nutritional standards, providing work to the needy poor throughout the year, creating durable community assets in the rural areas resulting in improvement in the quality of life of the rural people and arresting the exodus of rural population to cities and towns.

Objectives

Notwithstanding the benefits a number of shortcomings and drawbacks were noticed in the implementation of the programme. It was accordingly reviewed thoroughly and consequently restructured. It has now been renamed as 'National Rural Employment Programme'. This programme now forms a regular part of the Five Year Plan from the year 1981-82. It has the following three basic objectives :—

1. generation of additional gainful employment for the un-employed and under-employed persons both men and women, in the rural areas;
2. the creation of durable community assets for strengthening the rural infrastructure which will lead to rapid growth of rural economy and steady rise in the income levels of the rural poor; and
3. improvement of the nutritional status and the living standards of the rural poor.

Payment for Work

Under the new programme, a provision has been made for preparation of shelf of projects, for adoption of standards and specifications for execution of works, maintenance of assets created and necessary organisational arrangements. In addition to foodgrains, funds are now being provided to the states for material component required for providing durability to the projects executed under the programme

Rural Reconstruction



Small scale units manufacturing export goods



Deft hands at Morha making in Haryana



Rural Industries to provide more employment



Lift Irrigation in Haryana

TABLE 15.1

PHYSICAL ASSETS CREATED UNDER THE FOOD FOR WORK PROGRAMME DURING 1977-78 to 1979-80.

Sl. No.	State/U.T.	Area covered under soil conservation (Hect.)	Area brought under irrigation through major/minor irrigation (Hect.)	Area made cultivable through flood protection (Hect.)	Area covered under plantation (Hect.)	School bldgs. constructed/ repaired (No.)	Panchayat Ghars/ Community Hall Constructed (No.)	Roads work main- tained/ improved/ repaired (No.)	New roads construct- ed/repair- ed	Works in irrigation command areas	Other works
1.	Andhra Pradesh	—	34,534	—	—	6,908	—	22,413	13,901	—	78,819
2.	Assam	—	—	—	—	—	—	1,803	—	—	31
3.	Bihar	7,989	1,67,566	55,200	48	250	—	31,848	14,684	7,357	3,447
4.	Gujarat	65,670	74,875	4,319	1,79,173	97	—	3,285	2,795	39,551	53
5.	Haryana	4,972	1,378	13,651	—	517	344	774	4,739	209	4,144
6.	Himachal Pradesh	1,857	—	—	2,392	—	—	458	188	—	54
7.	Jammu & Kashmir	300	93,894	35,659	—	175	2	788	8,768	—	966
8.	Karnataka	—	13,626	—	3,006	—	—	—	80	—	1,937
9.	Kerala	98	3,293	504	—	471	—	3,034	20,475	—	82
10.	Madhya Pradesh	6,250	1,715	—	—	26,000	—	100	223	—	8,752
11.	Maharashtra	6,48,500	—	—	11,900	—	—	—	4,667	97,925	—
12.	Manipur	—	—	—	—	—	—	—	—	—	—
13.	Meghalaya	—	—	—	—	—	—	—	—	—	—
14.	Nagaland	—	—	—	—	—	—	—	—	—	—
15.	Orissa	19,702	3,67,476	70,031	29,116	19,953	53	92,505	604	—	63
16.	Punjab	175	—	—	14,170	—	—	3,570	9,884	3,017	2,475
17.	Rajasthan	3,900	15,100	—	—	3,051	789	43,457	1,654	—	129
18.	Sikkim	—	—	—	—	—	—	—	12,052	—	41,570
19.	Tamil Nadu	—	—	—	—	4,493	—	—	—	—	985
20.	Tripura	26,984	22,492	2,028	19,245	1,385	1,196	5,399	9,288	3,005	530
21.	Uttar Pradesh	66,785	—	—	361	—	—	50,584	44,506	—	3,388
22.	West Bengal	7,711	94,847	1,82,618	—	3,413	—	21,343	54,061	2,349	2,440
23.	Arunachal Pradesh	500	—	—	875	—	—	—	20	—	—
24.	Chandigarh	—	—	—	—	—	—	—	—	—	—
25.	Mizoram	—	—	—	960	40	78	—	9	—	68
26.	Pondicherry	—	200	83	—	—	—	—	—	—	345
27.	Andaman and Nicobar Islands	—	—	—	—	—	—	—	—	—	—
TOTAL		8,61,393	8,90,996	3,64,093	2,61,246	66,753	2,462	2,81,361	2,02,598	1,53,413	1,50,278

and for payment of wages in cash on central account. The payment of wages in foodgrains under the new programme has been restricted to the quantity of 2 kg. per head per day. The remaining wages are to be paid in cash out of which value of 1 kg. of foodgrains will be on central account.

Training for Self-Employment

The National Scheme of Training of Rural Youth for Self-Employment (TRYSEM) was initiated from August 1979 with the principal objective of removal of unemployment among youth. The main thrust of the scheme is on equipping rural youth with necessary skills and technology to enable them to take up self-employment. Initially it was proposed to train about 2 lakh rural youth every year in various skills both in IRD and non-IRD areas. Even after the extension of the IRD programme to all the blocks, TRYSEM is to continue as a separate scheme with separate financial allocations so as to strengthen the training infrastructure.

The strategy for training includes, apart from institutional training, training through local servicing and industrial units, master-craftsmen, artisans and skilled workers. During the period of training the trainees are also given financial assistance. They are also helped to prepare project reports, which are converted into bankable schemes. They are helped to apply for bank loans and subsidies. Subsidies on the IRD pattern with a maximum limit of Rs 3,000 per trainee is given. The trainees are also entitled, in suitable cases, to a free tool-kit costing up to Rs 250.

A sum of Rs 5 crores has been provided for the scheme in the Sixth Plan.

INDUSTRIES, SERVICES AND BUSINESS COMPONENT

The Industries, Services and Business Component (ISB) was built into the IRD programme in February 1979 with the objective of maximising the employment opportunities in the secondary and tertiary sectors. It was felt that for providing full employment in the rural areas it is necessary to promote the secondary and tertiary sectors.

As a first step in the implementation of the scheme a base line survey is being conducted in all the blocks with the objective of identifying the families of the target groups living below the poverty line. The survey is intended to collect data about the present level of income, occupational patterns and the potential for subsidiary occupation to augment the income of the identified families so as to bring them above the poverty line. About 200 families are to be taken up under the ISB scheme.

The selection of beneficiaries under ISB is based on the income criteria. Priority in selection is accorded to the poorest families. Only one beneficiary is taken from each family, preference being given to those who show aptitude for innovative and entrepreneurial activity. All persons selected under ISB are entitled to subsidies as per the IRD pattern. The maximum limit of subsidy is Rs 3,000.

Credit is one of the most important inputs for the success of self-employment projects. The strategy is one of increasing the volume of lending through institutional sources, regulation of non-institutional lending and shifting the direction of institutional credit towards the target groups.

KHADI AND VILLAGE INDUSTRIES

Khadi and village industries generally process local raw materials and mainly cater to the requirements of the local population. Some of the important industries under this category are khadi (cotton, woollen

and silk), the processing of cereals and pulses, cane, gur and khandsari, palm gur, non-edible oils and soap, bee-keeping, hand-made paper, village pottery, gobar gas, carpentry and blacksmithy. The Khadi and Village Industries Commission (KVIC), set up in April 1951, is responsible for the planning, organising and implementing programmes for the development of khadi and specified village industries. The Commission implements its programmes through state khadi and village industries boards and cooperatives. In 1979-80, 25 statutory state khadi and village industries boards, about 800 registered institutions and 28,000 cooperatives were engaged in implementing its programmes.

Performance

The production of khadi and village industries during 1979-80 aggregated Rs 440.01 crores as compared to Rs 319.51 crores in 1978-79 registering an increase of 38 per cent. Employment was provided to 27.33 lakh persons as compared to 25.30 lakh persons in the preceding year indicating an increase of 8 per cent. Table 15.2 indicates the comparative performance of khadi and village industries in the year 1978-79 and 1979-80.

TABLE 15.2
PERFORMANCE
OF KVIC

Item	(Rs crores)					
	1978-79			1979-80		
	Khadi	V.I.	Total	Khadi	V.I.	Total
Net disbursement	128.57	66.80	195.37	155.78	84.63	240.41
Production	76.54	242.97	319.51	92.03	347.98	440.01
Sales	78.26	242.01	320.27	87.15	364.15	451.30
Earnings	36.51	59.79	96.30	43.25	78.84	122.09
Employment (lakhs)	10.34	14.96	25.30	11.20	16.13	27.33

During 1980-81, the level of production of Khadi is expected to increase to Rs 111.00 crores providing employment to about 12 lakh persons. In the case of village industries, the level of production is likely to be of the order of Rs 394.00 crores providing employment to 22 lakh persons. Emphasis is now being laid that the Commission should act as a promotional and infrastructural support agency. Besides framing policies for the development of khadi and village industries at the national level, it should devote itself to provide necessary inputs in the form of training tools and equipment, raw-material and marketing support. It has been decided that 50 families in each of the 5,011 blocks in the country will be covered under KVI activities and the Commission will link up its activities more closely with the programmes of other decentralised agencies at block, district and state levels.

INSTITUTIONAL CREDIT

The Institutional Finance Division (IFD), of the Ministry provides help in obtaining credit from institutional agencies for the special programmes like IRDP, TRYSEM and construction of rural godowns as well as credit for cottage and village industries in rural areas. The credit support from cooperative banks and commercial banks for IRDP increased from Rs 54.60 crores in 1978-79 to Rs 101.34 crores in 1979-80.

The credit requirements of the various rural development programmes during the Sixth Plan have been tentatively estimated at Rs 2,844 crores, out of which Rs 2,192.6 crores will be for IRDP.

The substantial increase in the credit requirement for IRDP is mainly on account of the extension of the programme to all the 5,011 blocks in the country with effect from 2 October 1980.

BLOCK BANKING PLANS

In 1979 the Agricultural Refinance and Development Corporation (ARDC) issued guidelines to the states for the preparation of block banking plans which were to be in-effect portfolios of immediately bankable schemes. Accordingly, at the end of November 1980, 196 banking plans covering 17 states and 1,375 blocks and involving a financial outlay of nearly Rs 323 crores had been prepared. With the decision now taken to extend the IRDP to all the blocks in the country and keeping in view the fact that credit plans will now be prepared as part of the exercise of preparation of block level plans, the question of preparation of block banking plans for all the blocks in the country is to be examined. Simultaneously, the district credit plans and annual action plans prepared by commercial banks as envisaged in the 'Lead Bank Scheme' is also to be reviewed.

Bank Credit

The performance of Regional Rural Banks (RRBs) and of commercial banks under the Differential Rate of Interest (DRI) has been very encouraging. As on 31 December 1980, 85 RRBs covering 143 districts in 17 States were functioning in the country. At the end of March 1980, 65 RRBs had mobilised deposits to the tune of Rs 140.3 crores. The aggregate loans outstanding on that date were of the order of Rs 168.41 crores of which Rs 100.33 crores were outstanding to small and marginal farmers and agricultural labourers. This shows that RRBs have generally served the target population well.

Under the DRI scheme, banks are expected to make available at least 1 per cent of the total aggregate advances at the end of the previous year at 4 per cent rate of interest to persons qualifying for assistance under the scheme. At the end of December 1979, such advances constituted 0.94 per cent of the total aggregate lending in the previous year.

INVOLVEMENT OF INDUSTRIAL AND MERCAN- TILE HOUSES IN RURAL DEVELOPMENT

In order to motivate companies/cooperative societies to take up rural development programmes/projects, provisions under Section 35CC and 35CCA of the Income Tax Act, 1961, have been introduced granting exemptions from income tax for expenditure incurred on programmes of rural development. State level committees have been set up to consider and grant approval to programmes submitted under this scheme. These committees have started functioning from 1 June 1979.

AGRICUL- TURAL MARKETING

The Directorate of Marketing and Inspection advises the central and state governments on agricultural marketing problems. Its activities include : (i) promotion of grading and standardisation of agricultural and allied commodities; (ii) statutory regulation of markets and market practices; (iii) training of personnel; (iv) market extension; (v) market research, survey and planning; and (vi) administration of Cold Storage Order, 1980 and Meat Food Products Order, 1973.

Grading and Standardisation

The Directorate of Marketing and Inspection enforces compulsory quality control before export on as many as 41 agricultural commodities. The total value of commodities graded for export during 1979-80 was about Rs 375.5 crores.

The important commodities graded under 'Agmark' for internal

consumption include cotton, vegetable oils, ghee, cream, butter, eggs, rice, wheat, atta, jaggery, pulses, honey and ground spices. The total value of commodities graded for internal consumption during 1979-80 was about Rs 214.7 crores.

To ensure the purity and quality of products graded under 'Agmark', 21 laboratories have been set up at Alleppy, Amritsar, Bangalore, Bhopal, Bhubaneswar, Bombay, Calcutta, Cochin, Gauhati, Ghaziabad, Guntur, Jaipur, Jamnagar, Kanpur, Kozhikode, Madras, Mangalore, Patna, Rajkot, Tuticorin and Virundunagar along with the Central Agmark Laboratory at Nagpur as the apex laboratory to provide necessary testing facilities. The central and regional Agmark laboratories at Bombay, Calcutta and Madras are being strengthened further by the addition of biological testing units.

For securing prices commensurate with quality for the farmers, 63 agricultural commodities were graded before sale in 532 grading centres different states/union territories at the end of March 1980. The total estimated value of the commodities graded at producers' level at these centres during 1979-80 was Rs 480 crores.

The Directorate has formulated grade specifications for 123 agricultural commodities and grading instructions for 80 commodities.

Regulation of Markets

Regulation of markets is done by the state governments. The Directorate of Marketing and Inspection renders advice in framing market legislation and its enforcement. The number of regulated markets in the country at the end of March 1980 was 4,446, which included 1,906 principal markets and 2,540 sub-market-yards.

The Directorate is extending financial assistance to selected regulated markets for providing grading facilities for important commodities like tobacco, jute, cotton, groundnut and cashewnut at the producers' level. It is also implementing a scheme for providing central assistance for the development of infrastructural facilities in selected regulated markets both at primary and wholesale levels and the markets situated in command areas, markets predominantly for commercial crops and terminal markets dealing in fruits and vegetables. Since the inception of the scheme in 1972-73, a total amount of Rs 8.05 crores had been provided as grants-in-aid to 262 selected regulated markets. Besides, under a new scheme which was started in 1977-78 to assist rural markets, grants-in-aid to the extent of Rs 8.11 crores has been provided to various states for the development of 575 rural primary markets and 59 rural wholesale markets. The provision for 1980-81 is Rs 3 crores.

Training of Personnel

Persons from different states are given training in various fields of agricultural marketing by the Directorate of Marketing and Inspection. So far, 5,497 persons have been trained.

Market Research and Survey

Under the scheme of market research and survey, two programmes are being implemented, namely, (i) market research and planning and (ii) market planning and design. Under the former scheme, the Directorate carries out country-wide marketing surveys on livestock and important agricultural and horticultural commodities, to identify and study the problems of agricultural marketing. Survey of a number of wholesale markets for fresh fruits and vegetables has been carried out as a part of the activities of the market planning and design centre to make suggestions for their development and improvement. With

UNDP assistance, a Market Planning and Design Centre has been started at Faridabad and a training centre and workshop at Nagpur. The Centre would study the packaging, grading and marketing of selected fruits and vegetables and also advise the authorities on the designing of fruit and vegetable markets.

Cotton Classing Scheme

A cotton classing centre was established at Surat during 1969-70 as a pilot project to grade cotton lint. With the success of the pioneer scheme, five more such centres were sanctioned—one each in Maharashtra (Nagpur), Karnataka (Raichur), Tamil Nadu (Tirupur), Madhya Pradesh (Khandwa) and Punjab (Abohar). During 1979-80, 618 cotton classing certificates covering 58,275 bales valued at Rs 14.17 crores were issued by these Centres.

Cold Storage Order, 1980 and Meat Food Product Order, 1973

The Cold Storage Order of 1980 is enforced by the Directorate to develop the cold storage industry in a planned manner to ensure hygienic and proper refrigeration conditions, to render technical guidance for scientific preservation of food-stuffs and to help the farmers and depositors. So far, 2,234 cold storages with a capacity of 38.74 lakh tonnes have been established in the country. The Directorate also implements the Meat Food Products Order, 1973 throughout the country, to ensure quality control of meat products for human consumption. So far, 112 units have been granted licences and 7,000 tonnes of meat products have been certified during 1980-81.

LAND REFORMS

Land reform has been recognised and accepted as an important instrument of economic and social change. Immediately after independence, land reform measures were initiated in the country for achieving the twin objectives of increasing agricultural production and social justice. Land reform is basically a State subject and its implementation rests with them. Legislative measures enacted and adopted in this regard, therefore, vary from state to state to suit the local conditions and requirements. The Government of India, however, coordinates the national policy on the subject and reviews its progress from time to time and points out areas where regular action is necessary in the light of policies formulated for achieving the national objectives.

The objectives of the land reforms policy over the successive Plans have been to remove such impediments to agricultural development as arise from the agrarian structure inherited from the past and to eliminate exploitation and social injustice within the agrarian system. Among measures adopted for achieving these objectives greater emphasis was laid on: (i) abolition of intermediaries, (ii) tenancy reforms including regulations of rent, security of tenure and conferment of ownership rights on tenants, (iii) ceiling on agricultural holdings, (iv) consolidation of holdings, and (v) updating and preparation of land records.

Abolition of Intermediary Tenures

By and large, all intermediary tenures like *Zamindaris*, *Jagirs*, *Inams* etc., which covered more than 40 per cent of the area have been abolished and over two crore cultivators brought into direct relationship with the government. Some of these tenures were of great antiquity and then abolition represents a remarkable transition to a modern agrarian structure.

**Tenancy
Reforms**

Legislative measures have been taken for providing to the tenants security of tenure and for regulating rates of rent payable by them. The maximum rates of rent have been fixed at levels not exceeding one-fourth to one-fifth of the gross produce in all states except in Andhra Pradesh, Haryana and Punjab. The practice with regard to conferment of ownership rights on tenants is not uniform and a number of states continue to recognize tenancy. Many of the states have also provided for conferment of ownership rights on cultivating tenants. However, exceptions have been made in case of land owners who are members of the defence forces, unmarried women, minors, widows, and persons suffering from physical and mental disabilities.

**Land ceiling
Measures**

Laws on ceiling of agricultural land have been enacted and are being implemented in almost all states except in a few areas where the land is held by the community as a whole. The ceiling laws enacted in 1950's and 1960's were modified in the light of guidelines issued in 1972. Under the pre-revised ceiling laws nearly 7.6 lakh hectares were declared surplus and distributed among the landless. With the implementation of the revised ceiling laws, nearly 15.12 lakh hectares had been declared surplus by December 1980, of which about 9.96 lakh hectares were taken possession and about 6.95 lakh hectares had already been distributed to nearly 12.16 lakh beneficiaries of whom more than half were persons belonging to the scheduled castes and tribes.

**Consolidation
of Holdings**

The national policy on land reforms, right from its inception, has continued to press the need for consolidation of holdings. Most of the states in the country have enacted legislation to undertake consolidation of holdings. In Punjab, Haryana and western Uttar Pradesh, the work has been completed.

**Land
Records**

It has been recognised that updating of land records is essential not only for the implementation of land reforms but also for obtaining agricultural credit, which relies heavily on title to land. The status of land records varies from state to state. While in some states the records are fairly up-to-date, in others, specially in the eastern region where the *Zamindari* system was in vogue earlier, there is little relationship between entries in the records and the realities in the field. A systematic programme of compilation and correction of land records has, therefore, been undertaken all over the country to reflect up-to-date position about ownership and the rights of the tenants, share-croppers and other holders. Though considerable work has been done, much ground still remains to be covered.

Conferment of ownership rights on homestead tenants who belong to the poorer sections of the rural community has been one of the objectives of the land reforms policy. Security of tenure and ownership rights have been conferred on homestead tenants in all states. Under the minimum needs programme about 78 lakh house-sites have so far been distributed to landless workers and artisans in rural areas.

**APPLIED
NUTRITION
PROGRAMME**

The centrally sponsored scheme of Applied Nutrition Programme was initiated in 1963 with the objective of improving the nutritional status of the rural people particularly of the vulnerable group through a well-co-ordinated nutrition education programme of production and consumption of nutritious food. The *Gram Panchayats*, *Yuvak* and

Mahila Mandals have been associated with the production of nutritious food and demonstration feeding programmes of the vulnerable section of the community. The programme covered 1,766 blocks upto 1978-79. In accordance with the decision taken up by the National Development Council, the programme has been transferred to the state sector from the year 1979-80. It is, however, being continued in the union territories.

PANCHAYATI RAJ

Panchayati Raj, introduced in 1959, is a three-tier structure of local self-government at the village, block and district levels. However, the states are free to make changes in the structure to suit local conditions. All Panchayati Raj bodies are organically linked up. Special representation on these bodies is given to interests like backward classes, women and co-operative societies. Elected directly by and from among villagers, the panchayats are responsible for agricultural production, rural industries, medical relief, maternity and child welfare, common grazing grounds, village roads, tanks, wells and maintenance of sanitation. In some places they also look after primary education, maintenance of village records and collection of land revenue.

Coverage

Panchayati Raj now covers all the states except Meghalaya and Nagaland. The institution of village panchayat exists in all the union territories except Lakshadweep and Mizoram. There are at present 2,28,593 village panchayats. In addition, there are 4,478 Panchayat Samitis and 252 Zila Parishads.

Activities

The Panchayat, the co-operative and the school are the basic institutions at the village level for carrying out the programmes of rural reconstruction. The elected panchayat is in charge of all developmental programmes in the area. The cooperative endeavours to supply cheap credit to the people. The village school, which is also a community centre, looks after educational, recreational and cultural needs of the people. Associate bodies, such as women and youth organisations, farmers' and artisans' associations functioning in their respective spheres, are linked up with the panchayat in its development activities and are supported in turn by the panchayat in their work.

Finance

Panchayati Raj institutions have their own powers of taxation. They levy taxes on houses and certain types of lands, fairs and festivals and sale of goods and impose octroi duties. They also build up remunerative community assets.

The powers and responsibilities of Panchayati Raj institutions are derived not only from the respective state legislations, but also from the procedures—administrative and financial—laid down by state governments. Gujarat, Maharashtra and Tamil Nadu have invested these institutions with programme responsibilities over a wide range of activities.

Nyaya Panchayats

Nyaya Panchayats or village councils which provide a speedy and inexpensive system of justice to the villagers, are functioning in some of the states.

**Ashok Mehta
Committee on
Panchayati Raj
Institutions**

With a view to reviewing the functioning of Panchayati Raj institutions in the country and to suggest measures to strengthen them a Committee was set up in 1977 under the chairmanship of Sh. Ashok Mehta. The Committee submitted its report in August 1978. The recommendations of the Committee were considered by the government and a model legislation is now under preparation.

**Research and
Training**

The importance of training for rural development is being increasingly recognised. A major training programme has been launched not only for acquainting government functionaries with the details of the rural development schemes but also to train the beneficiaries so that they develop as good acceptors of the delivery system. A number of training courses, seminars and workshops are organized by the Ministry on various aspects of rural development. It also helps the state Government in establishing or strengthening the state centres for training and research in rural development.

**NATIONAL
INSTITUTE
OF RURAL
DEVELOPMENT**

The National Institute of Rural Development, Hyderabad is an autonomous organization under the Ministry of Rural Reconstruction, engaged in conducting research and training programmes on all aspects of rural development. Training programmes meet on-the-job requirements of functionaries involved in the rural development process. The research studies are action-oriented so that they can constitute a vital input for the training programme. Participants are middle and higher level functionaries engaged in rural development administration in the states. Some courses are also specifically designed for senior officers in non-government institutions like banks, industrial houses and voluntary agencies.

The Institute has been declared as the national IRD centre of the Centre for Integrated Rural Development for Asia and the Pacific (CIRDAP) established by the FAO at Comilla, Bangladesh.

CIVIL SUPPLIES AND CO-OPERATION

CIVIL SUPPLIES

The Department of Civil Supplies and Co-operation was created in October 1974 as a part of the reconstituted Ministry of Industry and Civil Supplies. It took on the work relating to co-operation (excluding co-operative agricultural credit) in the former Department of Community Development and Co-operation and that pertaining to civil supplies in the Ministry of Commerce. It was converted into a separate ministry in August 1976 but again changed to a department in the reconstituted Ministry of Commerce, Civil Supplies and Co-operation in February 1978. In September 1979, the Department of Civil Supplies and Co-operation was redesignated as Department of Civil Supplies under the Ministry of Commerce and Civil Supplies and its subjects relating to co-operation except consumer co-operatives were transferred to the Department of Agriculture and Co-operation. In July 1980, the Department of Civil Supplies was redesignated as the Ministry of Civil Supplies.

The Ministry of Civil Supplies deals with matters relating to internal trade and trade marks. Internal trade includes monitoring of prices, availability of essential commodities (including administration of Prevention of Black Marketing and Maintenance of Supplies of Essential Commodities Act, 1980), public distribution system, consumer protection, consumer co-operatives, control of future trading and integrated management of the supplies, prices and distribution of vanaspati, oilseeds, vegetable oils, cakes and fats. Works pertaining to trade marks includes, besides registration of trade marks, matters relating to weights and measures and the Indian Standards Institution.

Categories of Essential Items

Specific problem areas with reference to basic needs of the weaker and vulnerable sections of the population have been identified and measures taken for priority distribution of seventeen categories of essential items. These have been further divided into three broad categories according to their importance. The first category comprises food-grains, namely, wheat and rice (including coarse grains and pulses where necessary), sugar, standard cloth, vanaspati and edible oils, kerosene oil, soft coke and salt. In the second category are cement for housing and agricultural needs, cultural paper for students, diesel oil for agricultural needs, essential drugs, soap, including washing soap, matches and soda-ash. Baby food, tyres and tubes for cycles, scooters, buses and trucks and common footwear come under the third category. In addition, steps are taken to meet specific requirements of particular areas like salt in the eastern and north-eastern regions, soft coke in the northern and central regions, coarse grains and pulses for industrial and agricultural labour in several areas.

Approach

For meeting the problem of supply of some of these commodities, a two-fold strategy has been adopted: first, the 'commodity approach' which envisages the preparation of annual commodity budgets, in the widest sense aiming at balancing the supply and demand of these

commodities; second, the 'area approach' which seeks to ensure that essential commodities reach the vulnerable areas like metropolitan and large urban areas, labour concentrations in mining, industrial and plantation areas, district headquarters, hilly areas, rural areas in chronically scarcity affected or deficit districts and areas inhabited by vulnerable and poorer sections of the population.

Distribution of Essential Commodities

The public distribution system is functioning in the country since long. A scheme called the production-cum-distribution scheme for selected essential commodities, for putting the distribution system on a sound footing with appropriate support for sustaining and increasing production of essential commodities, was launched throughout the country from 1 July 1979. There are, at present, 2.76 lakh outlets of the system distributing essential commodities. The commodities recommended for distribution by the central government are wheat, rice, levy sugar, controlled cloth, kerosene oil and imported edible oil. Some states have also taken up the distribution of soft coke and cement. These commodities are being procured and supplied by agencies of the central government, such as Food Corporation of India, National Co-operative Consumers Federation, State Trading Corporation, Coal India Ltd. and various oil corporations in the public sector.

The functioning of the public distribution system in the country is kept under constant review in consultation with the state governments, and the various ministries/departments and agencies of the central government. As a result of this, corrective measures are taken from time to time to improve the supply of various essential commodities to the consumers. The organisation and administration of the public distribution system is the responsibility of the state governments. The state governments are supposed to nominate agencies in the public and/or the co-operative sector to procure buffer stock and supply various essential commodities to the outlets functioning in the states. The states have also to ensure that the commodities supplied to the outlets are distributed to the consumers at the fixed prices. The central government is supplying various essential commodities to the state governments at central issue prices which are subsidised and/or controlled. The state governments are authorised to add to these central issue prices certain incidental charges, like transport and local taxes to fix the end consumer price.

The consumer co-operatives in the urban areas and the primary agricultural credit societies in the rural areas are also being strengthened, with central assistance, to take up consumer distribution activity in a larger way, especially to cover remote and inaccessible areas and the weaker sections of the community. Specific plan programmes have been devised to achieve this end. By the end of the Sixth Five Year Plan, every re-organised village primary agricultural credit society is to have atleast one outlet for distribution of essential consumer articles.

Co-operatives and Distri- bution of Consumer Articles

The consumer co-operatives, which have been assigned a key role in the public distribution system, continued to serve the consumers through their branches and fair price shops, which were allotted to co-operatives in preference to the private trade. The co-operative distribution system of consumer articles comprises consumer co-operatives in urban areas and agricultural service and marketing societies in rural areas. In the consumer co-operative structure, a four-tier system is in

operation, comprising 16,348 primary societies at the base level, 481 central/wholesale societies, with 3,690 branches at district level, 14 state consumer co-operative federations at the state level, 8 state co-operative marketing-cum-consumers federations and the National Co-operative Consumers Federation (NCCF) at the national level. Out of 3,690 branches run by the district level wholesale/central stores, 200 are department stores, providing opportunity of complete shopping under one roof. In addition to this structure, there are over 5,000 co-operative societies which are functioning amongst industrial workers, railway employees, post and telegraph employees, and so on. In the rural areas, about 1,900 primary marketing societies and over 37,000 village/service societies and other co-operatives are engaged in distribution of consumer articles.

These co-operatives are engaged in distribution of various essential articles, both controlled and non-controlled. In controlled goods, co-operatives deal with all the items which are earmarked for the public distribution system. Other essential commodities handled by these co-operatives are groceries, cosmetics and toiletries, household goods, stationery goods, textiles, aluminium and stainless steel utensils, drugs and medicines, baby food, dry battery cells and tyres and tubes.

Regular supplies of these items have been ensured by earmarking a percentage of the total production of manufactured articles for distribution through co-operatives. Foodgrains are generally procured from the Food Corporation of India or direct from the open market at the time of harvest by their own agencies. In the rural areas, supply of agricultural requisites like implements, fertilizers and pesticides are also undertaken by the co-operative. During 1978-79, the value of the retail trade handled by the consumer co-operatives in urban areas was about Rs 700 crores as against Rs 650 crores during 1977-78, registering about a 10 per cent increase. In the rural areas, primary marketing societies and village societies handled consumer articles valued at about Rs 607 crores during 1978-79 registering an increase of about 11 per cent from the achievement during 1976-77, which was to the tune of Rs 546 crores.

Distribution of Controlled Cloth through Co-operatives

The National Co-operative Consumers' Federation is the co-ordinating agency at the national level for distribution of controlled cloth throughout the country. At the state level, generally the State Consumer Co-operative Federations have been appointed as co-ordinating agencies, but in certain states, the Tribal Development Corporation as well as Civil Supplies Corporation are also functioning as state level marketing agencies. In most of the union territories, the distribution of the controlled cloth is undertaken by NCCF direct through wholesale stores nominated by the concerned authorities. During 1979-80 (July 1979 to June 1980), the Textile Commissioner released 3,04,568 bales of controlled cloth against the national quota of 2,66,700 bales. Controlled cloth is distributed through 66,304 retail outlets in the country (as on 30 January 1980), out of which 55,841, i.e., more than 84 per cent were located in rural areas serving generally the weaker sections of the population. In urban areas also, many outlets are located in economically backward pockets.

NCCF

The National Co-operative Consumers' Federation is the apex national level consumers co-operative institution in the country. It is engaged in bulk procurement of essential commodities and their supply to affi-

liated organisations throughout the country. It has also set up a Consultancy and Promotional Cell with regional offices at Calcutta, Delhi and Madras for giving technical and managerial consultancy services to the consumer co-operative movement. It has also a very important role to play in the public distribution system for maintaining supply of essential commodities. The Federation is dealing both in controlled and non-controlled textiles, general merchandise such as paper, soda ash, razor blades, soap, detergents, ready-made garments, stainless steel utensils and a number of grocery items like pulses, tea, rice and salt. The Federation has also been engaged in bulk procurement and buffer stocking of pulses for effecting a salutary impact on the pulses market in the country. During 1978-79, the NCCF procured 36,953 metric tonnes of pulses from the producers to stabilise and control its prices. Besides, it had also taken up distribution of a few selected commodities which are particularly required during the festival season.

The Federation has entered into arrangements with manufacturers for production of blades, cheap varieties of textiles among other items under their own brand name. It is also running certain consumer industries such as production of exercise books and processed spices. At the initial stage, the NCCF was much dependent on sheltered business under arrangement by the Government of India. Gradually it started diversifying its activities and its annual sales turn over during 1979-80 was Rs 117.15 crore as against Rs 120.73 crore during 1978-79.

Trend in
Wholesale
prices

Inflationary pressures during the current year, relatively speaking, have by and large been checked and moderated, particularly since August 1980. During the first nine months of 1980-81 (April-December 1980), the all-commodities whole-sale price index moved up by 10 per cent as against an increase of 20.0 per cent during the same period in 1979-80. The annual rate of inflation, on a point to point comparison, came down to 13.1 per cent in December 1980 as compared to 23.3 per cent in March 1980 and 22.4 per cent in December 1979. During the first four months of the year, from April to July 1980, the general index moved up at a monthly rate of 2.6 per cent. However, during the subsequent three months from August to October 1980, the average monthly rate of inflation was 0.9 per cent and in November and December 1980, the index moved down at a monthly rate of 1.4 per cent coinciding with the commencement of the *kharif* season.

The wholesale price indices of a number of commodities were higher in December 1980 than in December 1979 and March 1980. However, the overall increase in the general index was largely due to the increase in the prices of a few commodities, namely, petro products, fertilizers, sugar, *khandsari* and *gur*, cereals, pulses, vegetables, fruits, oilseeds and edible oils. These commodities accounted for more than 70 per cent of the overall increase in the general index.

During the oil year 1979-80 (November 1979-October 1980), the wholesale price index of edible oils moved up by 8.4 per cent while during the oil year 1978-79, the index had gone up by 26.6 per cent. Thus, the trend in the prices of edible oils during the 1979-80 oil year was generally subdued. A similar trend was witnessed during the first nine months (April-December, 1980) of the current financial year as the wholesale price index of edible oils moved up by 10.9 per cent as against 29.9 per cent during the corresponding period in 1979.

**Consumer
Prices**

In general terms, the trend in wholesale prices has been reflected in retail prices. As against an increase of 10.7 per cent in the general index during April-November 1980, the consumer price index numbers for industrial workers and agricultural labourers moved up by 17.4 per cent, 10.8 per cent and 17.4 per cent respectively.

**Factors
Responsible
for Price Rise**

The inflationary pressures re-emerged in the national economy since March 1979 soon after the presentation of the Union Budget for 1979-80. The factors which combined to help inflationary forces gain further momentum include unprecedented drought in 1979-80 which adversely affected the production of various agricultural commodities, increase in import prices of commodities like crude petroleum and petroleum products, upward adjustment in the administered prices of commodities like petroleum products and fertilizers, increase in procurement/support prices of various crops like wheat, rice, coarse grain and sugarcane, infrastructure constraints in transport and power sector, shortage of some essential commodities like *gur*, *khandsari*, sugar, kerosene and cement, excess liquidity in the economy generated over the past few years and prolonged agitation in Assam which affected supplies of essential commodities and their prices in the North-Eastern Region and also supply of petroleum products all over the country.

**Production of
Essential
Commodities**

The production of foodgrains declined substantially to 10.89 crore tonnes in 1979-80, as a result of an unprecedented drought. The production of foodgrains during 1980-81 was, however, expected to be much better than last year.

During the first seven months of the current financial year (April-October, 1980), the production of a number of mass consumption manufactured products in the organised sector of the industry was higher in comparison to the corresponding period last year (April-October 1979). These commodities included baby food, cultural paper, rubber footwear, soaps, synthetic detergents, tooth-paste, tooth powder, fluorescent tubes, dry cells, pencils and hurricane lanterns. There was, however, a shortfall in the production of some manufactured products during the same period which included biscuits, Indian type leather footwear, bicycle tyres, soda ash, cement, electric lamps and razor blades. There was, however, no shortage of these items except cement and soda ash. Biscuits, footwear and bicycle tyres are also produced by the small scale units in the unorganised industrial sector. The production of sugar declined from 58.41 lakh tonnes during the 1978-79 sugar year to 38.96 lakh tonnes during 1979-80, which was largely responsible for an abnormal increase in the prices of free sale sugar during 1980-81. In 1980-81 sugar year, the production of sugar up to the end of December 1980 was higher than last year. There was an increase of 4.6 per cent in the production of vanaspati during 1979-80 oil year which amounted to 6.79 lakh tonnes compared to 6.49 lakh tonnes in the 1978-79 oil year.

Commodities

The availability position of essential commodities and items of mass consumption remained generally satisfactory, though shortages were felt in respect of sugar, cement, kerosene and soft coke. The shortage of these items as also localised temporary dislocation of supplies of a few commodities was largely due to production and movement constraints. The concerned administrative ministries made efforts to improve their availability.

Combating
Inflation

The major thrust of government policy in combating inflation and improving supplies of essential commodities has been to increase production and improve supply management. Some of the important measures taken in this direction are as follows :

- (i) The public distribution system is being further strengthened. The number of fair price shops which stood at 2.36 lakhs in December 1979 increased to 2.40 lakhs in March 1980 and to 2.76 lakhs in December 1980.
- (ii) There has been a significant increase in the offtake of cereals from the central pool. During January-November, 1980, the offtake of foodgrains from government stocks including Food for Work Programme amounted to 1.37 crore tonnes against 88 lakh tonnes in the same period in 1979.
- (iii) The support prices of various agricultural commodities were raised to encourage cultivators to increase their production.
- (iv) From time to time the state governments were requested to enforce vigorously the provisions of the Essential Commodities Act, Storage Control Orders, Price Display Orders and the Prevention of Blackmarketing and Maintenance of Supply of Essential Commodities Act, 1980 to check the activities of hoarders, black marketeers and other anti-social elements.
- (v) Steps taken to make larger quantity of edible oils available to consumers at reasonable prices included the following :
 - (a) From time to time state governments were requested to maximise the distribution of imported edible oils through the public distribution system. During the 1979-80 oil year, there was a remarkable increase in the release of imported oils for distribution to the consumers. It increased to 3,55,000 tonnes in 1979-80 as compared to 28,539 tonnes in 1976-77.
 - (b) In order to make available indigenous edible oils for direct consumption, imported oils were made available to the vanaspati industry up to 95 per cent of their requirements up to 31 December 1980. It was later reduced to 70 per cent from January 1981.
 - (c) State Trading Corporation of India has sufficient stocks of imported edible oils and has planned in advance to continue importing these oils from abroad.
 - (d) With a view to encouraging production of oilseeds in the country, government announced suitable increase in the support prices of various edible oils for the 1980-81 marketing season.
- (vi) Several measures were taken to contain the increase in the prices of sugar, gur and khandsari. Some of the important measures included the following :
 - (a) Under the dual pricing system which was re-introduced from 17 December 1979, government procured 65 per cent of sugar produced for distribution through fair price shops at uniform retail price. The

monthly releases of levy sugar as well as non-levy sugar was controlled by the central government. From 17 December 1979 to 29 December 1980, the Food Corporation of India moved 15.03 lakh tonnes of levy sugar.

- (b) During September 1980 to middle of November 1980, the sugar mills made an offer of sale of levy free sugar through government agencies at a fixed price. This scheme was implemented by the state governments.
- (c) Transport charges for road movement up to the railway head allotted to sugar mills were increased from one paisa to three paise.
- (d) With a view to encouraging production of sugar during the current season starting from October 1980, a scheme of excise duty rebate was announced for the first two months.
- (e) In order to check diversion of sugarcane to the manufacture of *gur* and *khandsari*, government reduced the stock holding limits of *khandsari* dealers from 1,000 quintals to 500 quintals in February 1980 and further to 250 quintals in July 1980.
- (f) Central government further advised state governments not to permit the manufacture of *khandsari* up to the end of December 1980.
- (g) Forward trading in *gur* was suspended with effect from 11 March 1980. The margins on bank advances against *gur* and *khandsari* were raised.
- (vii) Bank credit continues to be restrictive. Selective credit control was operated in the case of certain sensitive commodities, such as edible oils and oilseeds, sugar and pulses.
- (viii) Key commodities like petro-products, edible oils, cement, soda ash and steel were imported to replenish their domestic availability. Import of pulses was continued under open general licence. Exports of several items like fresh vegetables, HPS, groundnuts, onions and goat meat were regulated keeping in view their domestic requirements. The export of pulses and edible oils continued to be banned.

Consumer Movement

Several consumer guidance associations have been activated and are doing useful work, not only in supervising the distribution of essential commodities but also for checking malpractices in trade, especially adulteration and use of inaccurate weights and measures. In the context of rising prices, the consumer movement is gaining momentum. The emphasis is on streamlining the distribution system, imparting quality to mass consumption goods, creating awareness of quality and price amongst women, and recognition of the rights of the consumer. Already a number of laws and regulations are in force offering protection to consumers from unfair practices. The central and the state governments give suitable financial assistance to consumer societies for promoting consumer education, research on consumer problems, testing the quality of various products, maintenance of standards of manufactured products, organising seminars on consumer needs, wo

shops on availability of mass consumption items and publication of literature on consumer protection.

Legal Measures

In the complex economic system prevailing today, legislative protection is necessary to safeguard the interests of the consumers. The country has taken various measures to achieve this objective. (Steps taken to prevent food adulteration, etc., have been discussed in the chapter on Health).

The main legislation governing the production, procurement, price control and distribution of essential commodities is the Essential Commodities Act, 1955. This Act was amended in 1976 to ensure quicker and more effective action against the anti-social activities of profiteers, black-marketeers and hoarders.

To check the increasing price trend and artificial scarcity of commodities created by unscrupulous traders, the President promulgated on 5 October 1979 an Ordinance, namely, the Prevention of Black-marketing and Maintenance of Supplies of Essential Commodities Ordinance, 1979, providing for preventive detention of persons who indulge in hoarding, black-marketing and other unethical trade practices in regard to essential commodities and items of mass consumption. The Ordinance was replaced by an Act of Parliament in February 1980.

Standards of Weights and Measures

The Directorate of Weights and Measures in the Ministry of Civil Supplies is responsible for establishing standards of weights and measures, based on the International System of Units (SI). Since its inception, it has also been functioning as a nodal point for all activities relating to metric change and regulatory control on weights and measures. The enforcement of the standards, however, is done by the states/union territories in accordance with their own laws on the subject. With a view to bringing uniformity in enforcement, the Constitution (Forty-second Amendment) Act, 1976, has placed in the Concurrent List the subject of enforcement of weights and measures. As a result of this, Parliament also can make laws in this regard.

In order to introduce the International System of Units (SI)—the modernised and developed form of the metric system—and to bring our laws in line with international recommendations adopted by the International Organisation of Legal Metrology (OIML), the Standards of Weights and Measures Act, 1976 (60 of 1976) was enacted. It is now necessary to revise the enforcement laws in the light of this Act. Steps are being taken for this purpose.

The provisions of the 1976 Act and the rules framed under them for the regulation of packaged commodities were brought into force from 26 September 1977. They stipulate that every package intended for retail sale must bear a declaration of the net contents, the month and the year of manufacture or packing, the name and address of the manufacturer/packer, and the price. Provisions have also been made for the accuracy of the net content of the package. They have proved effective in establishing fair trade and price discipline in respect of commodities sold in packaged form.

The Indian Institute of Legal Metrology at Ranchi imparts training to the personnel of the Weights and Measures Organisations of the states. Foreign students also receive training in legal metrology at this Institute. It is being expanded and modernised with the assistance of the Federal Republic of Germany. Two Regional Reference

Standards Laboratories established at Ahmedabad and Bhubaneswar during the Fifth Five Year Plan have started verification/calibration of standards used in the states/union territories. The laboratories are also being equipped so that they may be able to undertake calibration of high accuracy measuring instruments used in industry and pattern approval tests of certain types of measuring instruments.

The National Physical Laboratory, New Delhi, is responsible for the realisation, establishment, custody, maintenance and updating of national standards of weights and measures. The Government of India Mint, Bombay, has been made responsible for the manufacture of reference, secondary and working standards. The Mint also caters to the needs for standards of several other countries in the region.

Trade Marks

The Trade and Merchandise Marks Act, 1958 provides for registration of trade marks and prevention of fraudulent use of registered marks on merchandise. The Trade Marks Registry is the statutory organisation set up for the administration of the Act. It is under the control of the Controller General of Patents, Designs and Trade Marks, who is the Registrar of Trade Marks for the purpose of the said Act. The head office of the Trade Marks Registry is at Bombay and it has three branch offices at Calcutta, Madras and New Delhi. Each office of the Registry has a defined territorial jurisdiction. The Register of Trade Marks is kept at the head office at Bombay and a copy thereof at each branch office. During the calendar year 1980, 4,432 trade marks were registered, 7,393 registered trade marks renewed and 140 registered users were recorded.

Under the Foreign Exchange Regulation Act, 1973, foreign companies or Indian companies with more than 40 per cent non-resident interest are not allowed to permit any trade mark to be used by any person or company for any direct or indirect consideration, without the prior permission of the Reserve Bank of India. Permission granted to use any such trade mark before the Act came into force has also to be renewed.

Forward Markets Commission

The Forward Markets Commission regulates forward contracts and keeps a watch over the price trends of a number of commodities including certain essential commodities. The Commission makes efforts to acquaint the state police authorities with the nature, *modus operandi* and other related aspects of offences under the Forward Contracts (Regulation) Act, 1952. It also supervises the implementation of this Act.

During 1980, the Commission continued the regulation of forward trading in jute sacking, pepper and turmeric conducted by recognised associations. Forward trading in *gur* was discontinued from 11 March 1980. The centres at which trading was permitted were Calcutta for jute sacking, Cochin and Bombay for pepper and Sangli for turmeric. Besides, transferable and non-transferable specific delivery contracts were permitted in raw jute and jute goods. Non-transferable specific delivery contracts were also permitted in cotton of different varieties under the auspices of recognised associations at Ahmedabad, Bhatinda, Bombay, Coimbatore, Guntur, Surat, Surendranagar and Ujjain.

The Government of India had set up on 27 March 1979 a Committee under the Chairmanship of Dr A. M. Khusro, then Vice-Chancellor, Aligarh Muslim University, to look into the operations of for-

ward markets and the role of the Forward Markets Commission in effectively regulating forward trading in various commodities. The Committee submitted its report to the government on 30 June 1980. The report is under the consideration of the government.

CO-OPERATION

The co-operative idea took a concrete shape in India for the first time in 1904, when the Co-operative Credit Societies Act—a measure designed to combat rural indebtedness and to provide for registration of credit societies—was passed. Later, in 1912, the Co-operative Societies Act also provided for registration of non-credit societies as well as federations of co-operatives. Since then, the co-operative movement has made progress, specially in the fields of agricultural credit, marketing and processing of agricultural produce, supply of farm inputs and distribution of consumer goods. By the end of June 1978, there were 3.0 lakh co-operatives in the country, of which about 66 per cent were operating in the rural areas, largely engaged in serving the farmers, landless labourers and other sections of the rural population.

Growth of Co-operatives

The salient features and operational dimensions of the co-operative movement in India for selected years between 1960-61 and 1977-78 are given in table 16.1.

TABLE 16.1
GROWTH OF Co-OPERATIVES

	1960-61	1970-71	1974-75	1975-76	1976-77	1977-78
No. of societies (lakhs)	3.3	3.2	3.3	3.1	3.2	3.0
Membership of primary societies (lakhs)	342	591	695	848	896	931
Share capital (Rs crores)	222	851	1,529	1,529	1,700	1,812
Working capital (Rs crores)	1,312	6,810	11,278	12,432	14,585	16,691

A study of the data in table 16.1 shows that between 1960-61 and 1977-78—a period of 17 years—the membership of primary societies increased by more than two and a half times, the share capital of all types of co-operatives increased by more than seven times and the working capital by more than eleven times.

Primary Agricultural Credit Societies

By far, the largest number of societies were in the agricultural credit sector. At the end of June 1978, there were 1.16 lakh primary agricultural credit societies covering 96.3 per cent of the rural areas. The membership of these societies rose to 478.60 lakhs as on 30 June 1978. Universal membership has now been accepted as the policy so far as the primary agricultural societies are concerned, so that the people belonging to the weaker sections could become members of the co-operatives and avail of their services. The societies had a share capital amounting to Rs 420.69 crores in June 1978 and short-term agricultural lendings amounting to Rs 1,109 crores during 1977-78.

Marketing and Processing Co-operatives

The co-operative marketing structure consists of about 3,592 primary co-operative marketing societies covering all important agricultural markets in the country—369 district/regional marketing societies, including 208 sugarcane supply marketing societies and cane unions,

27 state level co-operative marketing federations and one National Agricultural Co-operative Marketing Federation. The total value of agricultural produce handled by marketing co-operatives amounted to about Rs 1,797 crores in 1978-79. The value of foodgrains handled by marketing co-operatives increased from about Rs 220 crores in 1968-69 to about Rs 384 crores in 1977-78. During 1978-79, the National Agricultural Co-operative Marketing Federation's turnover stood at over Rs 130 crores, as against Rs 30.53 crores in 1976-77. This included exports amounting to Rs 78.00 crores.

The structure of processing units established in the co-operative sector conforms to two distinct patterns, namely, (a) units established by independent processing societies, and (b) units established as adjuncts to co-operative marketing societies. Under the first category fall the larger units, such as, co-operative sugar factories, spinning mills and solvent extraction plants. Medium and small units, such as, rice mills, oil mills, cotton ginning and pressing units, jute baling units, mostly fall under the second category. Of the 2,340 processing units organised at the end of March 1980 in the co-operative sector, 2,037 units were installed of which 342 units were large and medium sized industry like sugar mills, spinning mills, solvent extraction plants, etc. Over 1,519 units were established as adjuncts to marketing societies. 168 co-operative sugar factories have formed themselves into 8 State Federations and a National Federation. During 1979-80 sugar season, 139 co-operative sugar factories were in production. They produced 20.26 lakh tonnes of sugar accounting for nearly 52.5 per cent of the country's total production of sugar. At the national level, the National Federation of Co-operative Sugar Factories renders advice and maintains a technical cell. It has helped in organising the National Heavy Engineering Co-operative Ltd. for manufacturing machinery in the co-operative sector at Pune, Maharashtra. The NHEC has recently decided to diversify its activities for manufacturing of machinery required by oil, cement and paper industries. It has already acquired site near Pune and the plant and machinery are being installed for implementation of its first phase. The NHEC has enrolled 79 members including 69 co-operative sugar factories and has collected a share capital of Rs 95 lakhs. In the field of cotton ginning and pressing, co-operatives handled nearly 20 per cent of the total production in the country.

STORAGE

The National Co-operative Development Corporation is responsible for planning, promoting and financing the programme of augmenting storage capacity of co-operatives at various levels. Storage capacity of over 47 lakh tonnes had already been constructed in the co-operative sector by the end of June 1980, as against a capacity of 8 lakh tonnes in 1960-61. By the end of June 1980, as many as 21,391 rural godowns and 5,099 marketing godowns had been constructed. 175 co-operative cold storage units with a total capacity of 2.14 lakhs tonnes were also installed by the end of March 1980. One of the major developments in the co-operative storage is that the NCDC has secured a line of credit from the International Development Association as also the European Economic Community, for implementation of co-operative storage projects in the states of Haryana, Uttar Pradesh, Orissa, Madhya Pradesh and Rajasthan. These two storage projects, when completed by 1984, will add 18.8 lakh tonnes capacity in the co-operative sector.

The NCDC has also formulated a phase I project for co-operative storage in five more states of Andhra Pradesh, Maharashtra, Bihar, Punjab and Himachal Pradesh with a total godown capacity of 19.52 lakh tonnes to be completed within five years, as also a cold storage project involving organisation to installation of 253 co-operative cold storages, with a total cold storage capacity of 10.12 lakh tonnes, to be completed within a period of about 10 years. Both the projects have been appraised by the World Bank and negotiations for IDA assistance would be finalised shortly.

INDUSTRIAL CO-OPERATIVES

Co-operatives occupy an important place in the field of village and small industries and handloom weaving. As on 30 June 1978, there were 39,241 industrial co-operatives with a membership of 26.07 lakhs. During 1977-78, the production and sales of these societies were of the order of Rs 262.47 crores and Rs 189.42 crores, respectively.

The National Federation of Industrial Co-operatives, which was set up with a view to assist in the marketing of products of member societies, continued to make efforts to consolidate and strengthen its position. By the end of June 1980, it had 70 members with a paid up capital of Rs 25.67 lakhs. The total turnover of the Federation was of the order of Rs 162.24 lakhs during 1979-80.

CO-OPERATIVE SPINNING MILLS

The total number of spinning mills organised and installed in the co-operative sector was 133 and 62 respectively by June 1980. Of the 62 installed mills, 26 are growers' mills and 33 are weavers' mills. By June 1979, the number of installed spindles in the co-operative sector was 13.49 lakhs. The total membership of the co-operative spinning mills stood at 1.61 lakhs and their contribution towards share capital at Rs 13.32 crores. The total production of yarn during 1979-80 was around 778.87 lakh kgs. The sales value of the yarn produced by them was of the order of Rs 175 crores.

The spinning mills have organised, at the national level, the All India Federation of Co-operative Spinning Mills Ltd. The Federation is a promotional and developmental organisation and provides consultancy services for establishment of new mills and for expansion of existing mills. It also assists the spinning mills in their modernisation programmes by helping the mills in selection and purchase of machinery, examination of working plants and processing, selection of technical personnel, standardisation of accounting methods, etc. The Federation maintains a pool of key personnel for its member mills with a view to providing comprehensive technical expertise in the management of spinning mills.

SUPPLY OF AGRICULTURAL INPUTS

To help farmers, co-operatives in India play a significant role in the production and distribution of agricultural inputs, such as, fertilisers, seeds, pesticides and agricultural implements. Nearly 43 per cent of the total fertilisers distributed in the country are sold through the co-operative distribution system. The co-operatives have also diversified their activities in recent years to cover new lines of business like production of granular fertilisers, production, processing and distribution of seeds, manufacture and distribution of improved agricultural implements and setting up of agro-service centres.

IFFCO

The Indian Farmers Fertiliser Co-operative Ltd. (IFFCO) is a unique venture of co-operative in India in the field of large scale fertiliser

manufacture. It is the leading producer of fertilisers in the country, its share in the national production being 8 per cent in terms of nitrogen, and 21 per cent in terms of phosphates. Registered in 1967 with the support of co-operatives in the country and the Government of India with the objective of manufacturing and marketing fertilisers for the benefit of farmer members of affiliated co-operatives, the membership of IFFCO covers about 27,000 co-operative institutions ranging from the national level federations to the village level co-operatives in 16 states and 3 union territories. It has set up ammonia and urea plants at Kalol (Gujarat) and a NPK complex fertiliser plant at Kandla (Gujarat). The ammonia and urea plants have been designed to a capacity of 3.00 lakh tonnes and 3.9 lakh tonnes per year respectively and the NPK plant has a capacity of 3.75 lakh tonnes per annum.

IFFCO's Kalol and Kandla plants commenced production in early 1975. During the co-operative year 1979-80, the ammonia and urea plants produced 2.64 lakh tonnes and 3.13 lakh tonnes, respectively. The production of NPK fertiliser during the year was 5.33 lakh tonnes. The capacity utilisation achieved was 88 per cent, 79 per cent and 131 per cent respectively which is much higher than national average of 59 per cent for ammonia, 64 per cent for urea and 80 per cent for NPK.

IFFCO's marketing strategy revolves around selling the concept of modern farming technology instead of just the fertilisers alone. For this purpose, it operates through field force of about 300 highly trained and motivated agricultural technologists who function at the grassroot level in the villages and lay down practical demonstrations in the use of balanced fertilisers, improved seeds and other inputs as also in soil testing and in obtaining credit from the co-operative societies.

IFFCO has set up a naphtha based ammonia and urea plant at Phulpur near Allahabad designed to produce 900 tonnes per day of ammonia and 1,500 tonnes per day of urea, respectively. The estimated revised capital of this project is Rs 193 crores. The construction of this plant was completed by the end of June 1980 and the pre-commissioning activities are in progress.

The proposal for setting up another large sized ammonia and urea complex in the co-operative sector at Hazira, near Surat (Gujarat) based on natural gas available from the Bombay High/South Bassein has been approved. The complex will consist of two ammonia plants each with a capacity of 1,350 tonnes per day and two urea plants each having a capacity of 1,100 tonnes per day with an estimated capital cost of about Rs 622.9 crores. A new Co-operative Society 'Krishak Bharati Co-operative Ltd.' (KRIBHCO) has been registered to implement the project. KRIBHCO has already started taking all preliminary steps for setting up the project, which is expected to be completed by 1985.

NAFED

The National Agricultural Co-operative Marketing Federation (NAFED), which represents 3,370 co-operative marketing societies in the country, promotes inter-state and export trade of farm produce. It exports commodities like onions, pulses, chillies, ginger, garlic and cardamom to Australia, Belgium, Canada, Fiji, Hongkong, Japan, Malaysia, Mauritius, Singapore, Sri Lanka, UK, USA, and a number of African, West Asian and Gulf countries. Export of pulses, HPS

groundnuts, onions and potatoes is canalised through NAFED. During the co-operative year 1979-80, NAFED's direct exports were valued at about Rs 78.00 crores. NAFED undertakes movement of essential commodities from surplus areas to scarcity areas and helps to ease consumer supplies. During 1979-80, commodities worth Rs 52 crores were handled by it for this purpose. NAFED has thus been exercising a healthy influence on market operations, as a consumer protection measure.

NAFED has entered marketing of fresh fruits, mainly apples, and also vegetables to help growers in under-developed hilly regions in north and south-eastern parts of the country. It has set up two fruit and vegetable processing units, one in north and one in south and the products of NAFED have become quite popular. The Federation has established branches in all major port towns and capital cities in the country.

Co-operatives for the weaker sections of the society provide increased employment and income opportunities to different sections of the community like small and marginal farmers and fishermen. Functional co-operatives for programmes, like dairy, fishery and poultry mainly relate to the service of weaker sections.

Dairy

On 31 December 1978, out of a total of 190 dairy plants in operation in India, 80 were in the co-operative sector. On 30 June 1979, there were 30,447 primary milk supply co-operatives with a membership of 27 lakhs. During 1978-79, the co-operatives handled products valued at Rs 175 crores. The primary milk co-operatives are federated into 198 unions. A National Federation of Dairy Co-operatives was set up in 1970.

The National Co-operative Development Corporation (NCDC) gives financial assistance to dairy co-operatives. By the end of November 1980, the Corporation had sanctioned over Rs 6.91 crores for establishing 35 co-operative dairy units.

Fishery

The organisational structure of fishery co-operatives normally consists of primary fishery co-operatives at the base. A super-structure of federation of primary fishery co-operatives has also been built up. This consists of district and central federations and state-level federations. An All India Federation of Fishermen's Co-operatives was set up during 1979-80. On 30 June 1979, there were nearly 4,000 primary fishermen's co-operatives with a membership of 4.27 lakhs. The total value of fish handled by these primaries during 1978-79 was of the order of Rs 14.37 crores. Attempts are being made to develop co-operative programme for intensification of fish production on a project basis.

NCDC also gives financial assistance for development of fishery co-operatives. In all, over 240 projects of fishery co-operatives involving a total outlay of Rs 669.36 lakhs were approved by the end of March 1980.

Poultry Co-operatives

By the end of June 1979, there were over 1,310 primary poultry co-operatives with a membership of 56,203. These handled poultry products valued at Rs 4.59 crores during 1977-78. An integrated approach of availability of chicks, technical guidance, equipment, disease control, extension work, supply of poultry feed and collection

and marketing of poultry products through co-operatives is being encouraged.

Multi-purpose Tribal Co- operatives

As part of the programme of economic development of tribals, primary co-operatives in tribal areas are being reorganised to enable them to function as multi-purpose societies providing short, medium and long-term credit to the tribals, undertaking collection and marketing of agricultural and minor forest produce, arranging for supply of agricultural inputs as well as essential consumer goods. State level co-operative tribal development corporations/federations have so far been established in Andhra Pradesh, Bihar, Madhya Pradesh, Maharashtra, Rajasthan, West Bengal and Orissa to serve as apex organisations for marketing of minor forest produce and consumer goods.

Labour

Labour contract and construction co-operatives have been organised with a view to provide employment at reasonable wages to their members and preventing their exploitation by the contractors. During 1978-79, there were 11,543 labour co-operatives and forest labour cooperatives with a membership of 7.44 lakhs. The value of works executed by labour co-operatives rose from Rs 40.48 crores in 1975-76 to Rs 75.38 crores in 1978-79.

Housing

There were 29,593 primary housing co-operatives in the country with a membership of 16.42 lakhs as on 30 June 1978. These co-operatives constructed 5.08 lakh houses.

The number, membership and working capital of primary non-credit societies during 1977-78 are shown in table 16.2

TABLE 16.2
NUMBER,
MEMBERSHIP
AND CAPITAL OF
PRIMARY NON-
CREDIT CO-
OPERATIVE
SOCIETIES
(1977-78)

Type of Society	Number	Member- ship	Working Capital (Rs lakhs)
General purpose marketing societies	2,866	30,99,542	31,584
Specialised marketing societies	726	4,10,366	4,110
Milk supply societies	20,703	18,71,361	5,403
Live-stock/live-stock products societies	1,431	56,632	225
Farming societies	9,697	3,24,896	3,103
Irrigation societies	3,252	1,71,185	3,001
Other agricultural societies	8,104	5,33,116	6,829
Sugar societies	186	10,98,969	1,15,724
Cotton ginning, pressing societies	229	2,12,347	2,873
Other processing societies	619	1,72,255	2,809
Weavers societies	14,251	10,89,596	9,221
Spinning mills	60	1,78,214	11,128
Other industrial societies	24,804	10,84,332	7,983
Industrial societies (sericulture)	206	31,856	100
Consumer stores	15,827	45,33,466	6,830
Housing societies	29,593	16,42,674	72,682
Fishery societies	4,429	5,41,434	3,193
Other non-agricultural societies	4,740	4,57,347	2,350
Cold storages	77	31,098	697
Labour contract and construction societies	9,085	5,25,891	3,118
Forest labour societies	1,407	1,86,725	4,427
Transport societies	1,315	61,950	1,696

Training and Research

A three-tier well-organised structure of co-operative training is available in India. It consists of a National Institute of Co-operative Management, known as Vaikunth Mehta National Institute of Co-operative Management, Pune (VMNICM) for catering to the training requirements of senior personnel, a net work of 16 co-operative training colleges for training of intermediate personnel and 77 co-operative training centres for training of junior personnel. The National Institute of Co-operative Management at Pune and 16 co-operative training colleges situated at state headquarters are functioning under the administrative and financial control of the National Council for Co-operative Training of the National Co-operative Union of India which is financed entirely by the Government of India. Co-operative centres for training of junior category personnel are functioning under the control of State Co-operative Union and state governments. The VMNICM has also undertaken research projects on the various aspects of co-operative movement in the country.

National-level Co-operative Federations

A major development over the past one decade has been the emergence of national co-operative federations which have added a new dimension to the co-operative infra-structure. With National Co-operative Union of India at the apex, the other national-level co-operative organisations include the National Agricultural Co-operative Marketing Federation, the All India State Co-operative Banks Federation, the National Federation of Co-operative Sugar Factories, the National Co-operative Land Development Banks Federation, the National Co-operative Consumers' Federation, the National Federation of Industrial Co-operatives, the All India Federation of Co-operative Spinning Mills, the National Co-operative Housing Federation, the National Co-operative Dairy Federation of India, the National Federation of Co-operative Urban Banks and Credit Societies and the All India Federation of Co-operative Fishery Societies.

Workers' Participation in Management

In the context of a national pattern, which is being evolved, the system of workers' participation in management is being introduced in large co-operative industrial units. Special co-operative programmes directed towards increasing employment and income opportunities to vulnerable sections have been evolved and are being implemented. The National Co-operative Development Corporation has also extended its activities to cover co-operative programmes for weaker sections.

While the overall progress of the co-operative movement appears striking, there are wide regional disparities. The level of development of agricultural co-operatives is not uniform in all states. A number of schemes have been evolved with financial assistance from the central government for accelerating the growth of agricultural co-operatives in those states where its progress had been slow.

Another aspect that is currently receiving attention is the review of state co-operative laws with a view to overcoming the reported restrictive features of co-operative legislation which tended to prevent the quick growth of co-operative laws. The aim is to blend the principle of democratic control with the self-reliance of the co-operative movement.

Consultancy Services

With a view to provide expert management advice and guidance to consumer co-operative institutions in improving their business opera-

tions and managerial efficiency, a Consultancy and Promotional Cell was established in 1972 by the NCCF with financial support from government. The activities of the Cell were further expanded under the ILO/SIDA Technical Assistance Programme under which services of ILO experts were made available to the Consultancy Cell in various fields of consumer co-operatives management, besides the training facilities abroad for Indian counterparts on techniques of management.

**Supply to
Students**

This scheme, circulated to state governments and union territory administrations in July 1975, provides for supply of essential consumer articles, such as foodgrains, pulses, spices, vanaspati and other edible oils, tea and coffee, sugar and the like through consumer co-operative institutions to students' hostels and approved lodgings at preferential/concessional rates. This programme is under implementation in all the states and union territories.

**Distribution of
Controlled Cloth**

Between 1964 and 1972, while there was statutory control on production and prices of certain varieties of cloth, there was no control on its distribution. This led to serious malpractices. Consequently, with effect from November 1972, the responsibility for distribution of controlled cloth was entrusted to the consumer co-operatives. With the entry of co-operatives in the field, a programme to increase the number of retail outlets in urban and rural areas was taken in hand. The National Co-operative Consumers' Federation introduced a Freight Equalisation Fund to ensure that controlled cloth reaches all places including far-flung areas at the same retail price. The total number of retail outlets for distribution of controlled cloth increased from 62,198 in June 1978 to 66,304 in June 1980. Of these, about 84 per cent are located in rural areas.

A new scheme of production and procurement of controlled cloth was introduced from 1 October 1978. In order to maintain the retail consumer prices of controlled cloth at the same old rate, the government is subsidising the price of controlled cloth through the NCCF to an extent of over 35 per cent.

The requirements of energy in India are met from both commercial and non-commercial sources. The most important sources of commercial forms of energy are coal and oil. Hydro power and coal contribute primarily to electricity production. Firewood, cowdung cakes and vegetable waste, which constitute the non-commercial forms of energy, meet the bulk of the rural energy demands.

India relies on imports for meeting about 65 per cent of its oil requirements. The dramatic change in the world energy situation following the steep increase in oil prices since October 1973 had its impact on India also. The value of import of crude oil and petroleum products went up from Rs 333 crores in 1973 to Rs 1,109 crores in 1974 and to Rs 1,147 crores in 1975, creating serious problems of balance of payments. As an immediate step, it was decided to introduce measures to curb consumption of petroleum products, specifically for non-essential uses, and identify and implement possibilities of substituting petroleum products with other forms of energy, mainly coal. The situation also emphasised the need and urgency for aiming towards self-sufficiency in energy supplies and evolving and adopting measures to achieve this goal. On the petroleum side, exploration activities have been intensified to locate new oil resources, particularly off-shore. In the coal sector, a comprehensive programme has been evolved and adopted to step up coal production to meet the increased demands. These steps have led to encouraging results.

Recognising the importance of energy for the overall economic development and the need for a co-ordinated approach to development of various forms of energy, a new Ministry of Energy was created in October 1974. This ministry has been given the responsibility for general policy in the field of energy and development of coal and power sectors.

The government had appointed in 1970 a committee to recommend an outline of a long-term national fuel policy. This committee (Fuel Policy Committee) submitted its final report in October 1974. Based on its recommendations and the subsequent developments in the field of energy, a comprehensive energy policy has been formulated, identifying measures to be adopted in regard to production, transportation, utilisation and conservation of various forms of energy. The main thrust of the policy is towards development of indigenous sources of energy with a view to achieving self-sufficiency, conservation of energy and elimination of wasteful uses.

In view of the fact that electricity is the most convenient and versatile form of energy, the demand for it in India has been growing at a rate faster than other forms of energy. Electricity plays a crucial role in both industrial and agricultural sectors and the productivity in both these sectors is closely linked with adequate availability of power. In view of this, power development has been given high priority in the development programmes.

POWER

Power development was initiated in India as early as 1900 with the

commissioning of the hydro-electric power station at Shivasamudram in Karnataka. In spite of this early beginning, the progress was not impressive till 1947. The installed capacity was as low as 19 lakh kw and the development was mainly concentrated around urban centres.

Power generation programmes, however, made phenomenal progress with the advent of the five year plans. During the First Plan (1951-56) construction of a number of major river valley projects like Bhakra-Nangal, Damodar Valley, Hirakud and Chambal Valley was taken up and these projects resulted in the stepping up of food production and also power generation. At the end of First Plan the generation capacity stood at 34.2 lakh kw.

The emphasis in the Second Plan was on the development of basic and heavy industries, and the related need to step up power generation. The installed capacity at the end of the Second Plan reached the 57 lakh kw.

During the Third Plan the emphasis was on extending power supply to rural areas. A significant development in this phase was the emergence of inter-state grid system. The country was divided into five regions to promote power development on a regional basis. A regional electricity board was established in each region to promote integrated operation of the constituent power systems.

The three Annual Plans that followed the Third Plan aimed at consolidating the programmes initiated during the Third Plan.

The Fourth Plan envisaged the need for central participation in expansion of power generation programmes at strategic locations to supplement the activities in the state sector.

The progress during the period covering the Third Plan, the three Annual Plans and the Fourth Plan was substantial, with installed capacity rising to 184.6 lakh kw, comprising 69.7 lakh kw from hydro-electric projects and 108.5 lakh kw from thermal power projects and the balance of 6.4 lakh kw from nuclear plants.

Future Power Targets

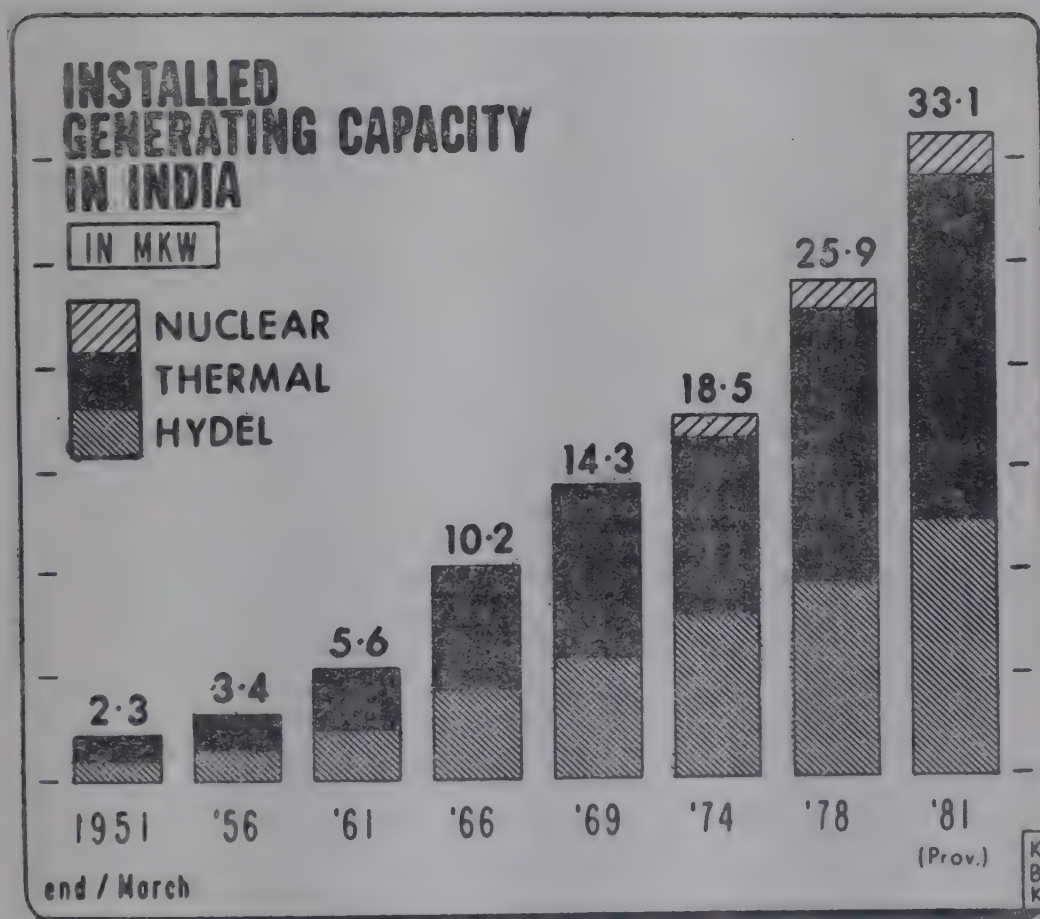
The main emphasis of the power programme in the Fifth Plan was on speeding up the construction and commissioning of power generation projects and improving the utilisation of the available capacities. Power stations with a total installed capacity of 77.2 lakh kw were commissioned during the Fifth Plan from April 1974 to March 1978 to bring the total installed capacity in the country to about 2.62 crores kw. An additional capacity of 30.4 lakh kw was added during 1978-79 bringing the total installed capacity to 2.92 crore kw including non-utilities.

Future Power Programme

The total installed generating capacity in utilities and non-utilities in the country at the beginning of 1980-81 was 31,025 mw. A capacity of about 2,778 mw was expected to be added during 1980-81 to bring the total installed generating capacity to 33,803 mw. A large number of projects are at present in various stages of construction and these would give benefits in different time horizons.

The working group on power set up by the Planning Commission to recommend a power programme for inclusion in the Sixth Plan 1980-85 and a broad perspective up to 1989-90 had identified a tentative programme of addition of about 48,000 mw during the 10-year period 1980-90. A capacity of about 19,666 mw is expected to be added in the Sixth Plan period (1980-85).

Table 17.1 shows expected regional-wise additions to the total



energy from various sources during 1980—85.

TABLE 17.1
REGION-WISE
ADDITION TO
THE TOTAL
ENERGY DURING
1980—85

Region	Additions to generating capacity (mw)			
	Hydro	Thermal	Nuclear	Total
Northern	1,292	3,660	220	5,172
Western	457	5,480	—	5,937
Southern	2,205	1,890	470	4,565
Eastern	503	2,820	—	3,323
North-Eastern . .	311	358	—	669
TOTAL	4,768	14,208	690	19,666

Transmission
Lines and
Development
of Regional
Grids

Significant progress has been made in the expansion of transmission and distribution facilities in the country. The total length of transmission lines above 500 volts had been increased from about 29,000 km at the end of 1950 to 2.9 lakh km at the end of the Third Plan and to 8.79 lakh km in March 1978. Of this, the increase in the main transmission lines of 66 kv and above was from 8,270 km in December 1950 to 46,000 km in March 1966 and to 10.05 lakh km in March 1978. The highest transmission voltage in use at present is 400 kv. During 1980-81, 3,317 km of 220 kv lines were completed.

Upto the Third Plan (1961—65) and extending up to the three years interregnum (1966—69), the transmission systems were developed more or less as state systems. This is because the generating stations were built primarily in the state sector. When the state transmission systems had developed to some reasonable extent in the Third Plan the potentiality of integrated and inter-connected operation of individual state systems within the region was thought of. A centrally sponsored programme of establishing inter-state/regional links was included in the Fourth Plan. Under this programme, loan assistance to cover the entire cost of construction of the inter-state/regional links was provided under the centrally sponsored schemes—inter-state transmission lines to state governments outside the state plan ceilings. The programme continued in the Fifth Plan also.

At the beginning of the Fourth Plan 24 inter-state and seven inter-Regional lines of 110 kw and above with a total length of 4,115 ckt km were existing. Forty-two inter-state and inter-regional transmission lines with a total length of 5,815 ckt km have been sanctioned so far since the beginning of the Fourth Plan.

India has now well connected power systems. Exchange of power is taking place regularly between a large number of states and this greatly facilitates better utilization of the existing capacity. Regional load-despatch centres are being established in each Region to facilitate integrated operation of the constituent power systems. It is envisaged that, ultimately, these load-despatch centres would be equipped with on-line computers to control the power stations and power systems automatically.

Patterns of
Development

The pattern of power resources in the country has been changing from time to time depending on the availability of resources. At present, the States of Himachal Pradesh, Jammu nad Kashmir, Karnataka, Kerala and Meghalaya depend primarily on hydro-electric power while Delhi, Bihar and West Bengal depend mainly on thermal power resources. Andhra Pradesh, Assam, Gujarat, Haryana, Madhya Pra-

desh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu and Uttar Pradesh derive their power supply from both hydro and thermal sources.

About 95 per cent of the total installed capacity is accountable to hydro-power and coal-based thermal power stations. It was only in 1969 that a nuclear power station was commissioned. There are at present two nuclear power stations in operation in the country, one in Maharashtra (Tarapur) and the other in Rajasthan (Kota). Their relative contribution is still small.

Organisation

The responsibilities of the central government in the field of power development and supply can be classified broadly under the following heads : legislation; formulation of policy; planning and coordination; arranging of funds; foreign exchange and scarce material; establishment and operation of power stations and regional grids; design and consultancy services for power generation schemes; rural electrification expansion; resolution of inter-state aspects relating to power generation and supply; cooperation with neighbouring countries in the field of power development; and exploitation of new sources of energy other than nuclear power.

Electricity Supply Act 1948

The Electricity (Supply) Act, 1948 forms the basis of the administrative structure of the electricity industry. The Act provided for the setting up of a Central Electricity Authority, with responsibility, *inter-alia*, to develop a national power policy and to co-ordinate the activities of the various agencies and state electricity boards. The Electricity (Supply) Act was amended in 1976 to enlarge the scope and functions of the Central Electricity Authority and to enable creation of companies for generation of electricity.

Central Electricity Authority

The Central Electricity Authority, established in 1950, was till recently functioning as a part-time body discharging primarily the arbitration function. Its other functions were being discharged by the Central Water and Power Commission (Power Wing). With the bifurcation of the CWPC in 1974, the functions of the Power Wing of the Central Water and Power Commission have been taken over by the Central Electricity Authority. Its functions are : developing a national power policy, formulation and co-ordination of plans for power development, techno-economic appraisal of projects, monitoring the progress of implementation of projects, ensuring efficient performance of power stations and systems, development of manpower, investigation of power projects, arbitration on certain matters, promotion and co-ordination of research and design activities in the power field, providing assistance to state governments and State Electricity Boards, collection and publication of statistical information relating to power supply industry and design and consultancy services.

The following corporations operate under the union Ministry of Energy.

- National Thermal Power Corporation and National Hydro Electric Power Corporation to establish regional power stations and bulk transmission facilities in the central sector.
- North-Eastern Electric Power Corporation to establish regional power stations in the north-eastern region.

- Damodar Valley Corporation responsible for unified development of the Damodar Valley.
- National Projects Construction Corporation to construct river valley and power projects.
- Rural Electrification Corporation to finance rural electrification schemes and to promote and finance rural electric corporations.
- National Hydro-Electric Power Corporation was established for speedy, efficient and economical completion of hydro-projects.

REGIONAL ELECTRICITY BOARDS

Regional Electricity Boards were set up in 1964 in each of the five regions to bring about voluntary co-operation among the states for developing regional grids and promoting coordinated operations of power systems. The five Regional Electricity Boards are : Northern Regional Electricity Board covering Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Uttar Pradesh, Chandigarh and Delhi; Western Regional Electricity Board covering Gujarat, Madhya Pradesh, Maharashtra, Goa, Daman and Diu and Dadra and Nagar Haveli; Southern Regional Electricity Board covering Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Pondicherry; Eastern Regional Electricity Board covering Bihar, Orissa, West Bengal, Sikkim, and Damodar Valley Corporation System; and, North-Eastern Regional Electricity Board covering Assam, Manipur, Meghalaya, Nagaland, Tripura, Arunachal Pradesh and Mizoram.

STATE ELECTRICITY BOARDS/ POWER CORPORATION

State Electricity Boards have been established in 18 out of the 22 states and they are mainly responsible for generation and distribution of electricity in their respective states. The States of Manipur, Tripura, Sikkim and Nagaland are yet to establish their state electricity boards. The Electricity Supply Act (1948) was amended in October 1976 which *inter-alia* assigned a larger role to the Central Electricity Authority particularly in the preparation of national power plans and provided for establishment of central or state generating companies. Two central generating companies viz. National Thermal Power Corporation and National Hydro Power Corporation have already been set up. Out of the total installed capacity of the country at the end of March 1979, about 68.41 per cent is owned by the state electricity boards, 4.75 per cent by private utilities, 6.68 per cent are captive plants and the balance 18.43 per cent are owned by the state government/central government and their undertakings, corporations and municipalities.

TRAINING MANPOWER DEVELOPMENT

The equipment used in modern power stations and power systems are highly sophisticated requiring specially skilled personnel for their installation and operation. A Power Engineers' Training Society was set up by the Central Government in 1979 for meeting the training need in the power sector and the training institutes at Neyveli, Durgapur, Nagpur and Delhi have been transferred to the Training Society. A simulator is also being installed at the Thermal Power Station Training Institute at Delhi for training purposes. Simulator is a sophisticated equipment in which the entire operation of a power station can be simulated and is considered to be a modern aid for training. A Power Systems Training Institute and Hot-Line Training Centre have also been established in Bangalore to train engineers in the operation of

power systems and load-despatch techniques and maintenance of transmission lines.

Sources for Power Development

Besides the conventional sources of power like thermal, hydro and nuclear fuels the Ministry of Energy is examining the prospects of development of power from non-conventional sources such as geothermal energy, solar energy, wind energy and tidal energy. Harnessing of these sources, however, requires considerable research and development efforts.

Sources of Hydro-electric Power

The first systematic assessment of the country's economic hydro potential was conducted by Central Water and Power Commission during 1953-58, when the total economically exploitable potential was placed at nearly 2.5 crore kw continuous, to be generated by 260 hydro schemes. In view of the technological advancement and changed conditions in power systems etc., the Central Electricity Authority has again taken up the systematic re-assessment of the country's economic hydro potential. As a first step, a quick preliminary assessment has been made, which places the country's economic hydro-potential equivalent to 4.5 crore kw continuous, corresponding to an annual energy potential of 394.2 Twh based on about 500 potential sites considered suitable for economic exploitation. Detailed studies of re-assessment are continuing. The schemes in operation utilise equivalent of about 48 lakh kw continuous. With the completion of a number of schemes which are under execution, about 23 lakh kw continuous, will be utilised by 1984.

In addition, the Central Electricity Authority is also attempting to identify suitable sites for development of economic pumped storage schemes and a few of them have already been identified.

Coal for Power

Coal based thermal and diesel stations contribute about 59 per cent of the electricity generation in the country and they are expected to play an important role in power generation in future.

Considerable economies can be achieved by locating large thermal power stations near colliery pit heads and distributing power from them through extra high voltage transmission lines. It is proposed to initially establish, in a phased manner, super thermal stations in various regions of the country, at Singrauli (UP), Korba (MP), Ramagundam (AP) and Farakka (WB).

Oil and Gas for Power

Use of oil and gas for power generation has so far been very limited. This is confined to a few thermal stations located close to the oil/gas wells and refineries and diesel and gas turbine stations. Out of the total oil used in the country only about 8 per cent is used for power generation.

Nuclear Energy

Nuclear power generation was initiated in the country in 1969 with the commissioning of the nuclear power station at Tarapur with an installed capacity of 420 mw. The installed capacity of nuclear power plants at present is 640 mw

Tidal Energy

Large tidal variations are known to occur in the Gulfs of Cambay and Kutch on the West Coast and the estuary of the Ganga on the East Coast and these have been attracting attention from the point of view of tidal power development. Preliminary studies have established

the availability of large tidal potential in the Gulfs of Cambay and Kutch and the possibilities of small scale tidal power development in the Sundarbans area on the East Coast. Further investigations and studies are required to determine the mode of development, the features, the potential, the costs involved and the economic viability.

Geothermal Energy

The activities in the geothermal field in the country are directed towards location of promising hydro-thermal reservoirs for power generation and other possible uses of the heat energy. Geothermal manifestations in the form of hot springs occur in several regions of the country. The most important among these are in the North-Western Himalayas and along the West Coast. Geothermal explorations are in progress in Puga in Jammu and Kashmir, in Parbati valley in Himachal Pradesh and along the West Coast.

Solar Energy

Utilisation of solar energy is of great importance to India since it lies in a temperate climatic region where sunlight is abundant for a major part of the year. An integrated programme of research, product development and demonstration projects involving several agencies has been undertaken to develop the technology for application of solar energy for various purposes. The research activities are being directed both towards solar thermal applications and direct conversion of solar energy into electricity. A major development is the 10 kw demonstration solar power generation unit which has been successfully developed under a project undertaken jointly by India and West Germany. Some of the other areas in which research work has been undertaken are refrigeration and cold storage, desalination of sea water, solar pumps and solar photo-voltaic cells.

PATTERN OF CONSUMPTION

The per capita consumption of electricity at the time of independence was 13 kwh which rose to 26 kwh by the end of First Plan in 1956. It increased to 97.5 kwh in 1973-74 at the end of Fourth Plan and to 119.5 kwh during 1976-77.

The pattern of electricity consumption in the country from 1950-51 to 1979-80 is given in table 17.2.

TABLE 17.2
PATTERN OF
ELECTRICITY
CONSUMPTION

Sector	Share per cent			
	1950-51	1960-61	1970-71	1979-80
Domestic . . .	12.6	10.8	8.8	10.2
Commercial . . .	7.5	6.1	5.9	6.0
Industry . . .	62.6	69.3	67.6	60.6
Agriculture . . .	3.9	6.0	10.2	15.4
Others . . .	13.4	7.8	7.5	7.8

Rural Electrification Corporation

With the setting up of the Rural Electrification Corporation (REC) in 1969, electrification of villages, and energisation of agricultural pump-sets have considerably increased. The Corporation not only finances rural electrification schemes in different states but also extends help to the state electricity boards in drawing up of viable rural electrification schemes and also in their speedy implementation.

Out of a total 5.76 villages in the country about 2.60 lakhs constituting 45.1 per cent were electrified by the end of December 1980. The

number of agricultural pump-sets energised during the period was around 41.41 lakhs. The strategy of rural electrification continues to be oriented towards agricultural production. For large-scale energisation of pump-sets, the Corporation has introduced a special project (agriculture) programme, which is jointly financed by the REC, the commercial banks and the Agricultural Refinance and Development Corporation (ARDC). Special attention is being paid to the development of backward, under-developed and tribal areas and areas inhabited by the weaker sections of the society.

During 1978-79, the minimum needs programme for rural electrification which was earlier aimed at population coverage was revised to electrification of villages in those states which had been below the national average. Under the minimum needs programme/revised minimum needs programme alone, about 15,000 villages had been electrified.

Three states, Kerala, Haryana and Punjab and the three union territories of Chandigarh, Delhi and Pondicherry have electrified all their villages. Seven other states, Andhra Pradesh, Gujarat, Himachal Pradesh, Jammu and Kashmir, Karnataka, Maharashtra and Tamil Nadu and the three union territories of Dadra and Nagar Haveli, Goa, Daman and Diu and Lakshadweep—are well ahead of 50 per cent in respect of rural electrification. In fact, Tamil Nadu has electrified 99 per cent of its villages.

The draft Sixth Plan (1980—85) envisages electrification of additional one lakh villages and energisation of 25 lakh pump-sets in the country. From April to November 1980, about 10,000 new villages had been electrified and 1.94 lakh pump-sets energised. Subject to availability of required funds and construction material, it is expected that all the villages in the country would be electrified by 1994-95.

MAJOR POWER PROJECTS

The details of thermal and nuclear power stations with generating capacity are given in table 17.3.

The details of the hydro power stations with generating capacity are given in table 17.4.

Thermal/Nuclear Power stations showing generating capacity.

TABLE 17.3
MAJOR POWER
PROJECTS
(Thermal and
Nuclear)

Region/State	Name of Station	Capacity	
		Installed	Decated
1	2	3	4
Northern Region			
Delhi	Badarpur	510.0	510.0
	I.P. Station	284.1	282.2
	Rajghat	59.6	28.0
Haryana	Faridabad (Extn.)	120.0	120.0
	Panipat	220.0	220.0
	Faridabad	15.0	15.0
	Surajpur	6.8	5.0
Jammu & Kashmir	Kalakote	22.5	22.5
Punjab	Bhatinda	440.0	440.0
Uttar Pradesh	Obra (Th.)	250.0	250.0
	Obra (Extn. 1-3)	300.0	300.0
	Obra (Extn. 4-6)	600.0	600.0
	Harduaganj 'B'	220.0	220.0
	Harduaganj 'A'	90.0	90.0

1	2	3	4
	Harduaganj 'C'	60.0	60.0
	Harduaganj St. V-I	110.0	110.0
	Renusagar	125.0	125.0
	Panki Extn.	220.0	220.0
	R.P.H. (Kanpur)	75.0	65.0
	Others	146.6	131.0
	Panki	64.0	61.0
	Total for the Region :	3938.6	3875.0
Western Region			
Gujarat	Dhuvaran (Th.)	534.0	534.0
	Ahmedabad Elec. Co.	217.5	192.5
	Ukai 1-2	240.0	240.0
	Ukai 3-4	400.0	400.0
	Gandhinagar	240.0	240.0
	Sabarmati Extn.	110.0	110.0
	Uttran	67.5	61.0
	Others	142.0	116.5
	Satpura 1-5	312.5	312.5
	Satpura-6	200.0	200.0
Madhya Pradesh	Satpura-7	210.0	210.0
	Korba-II	200.0	200.0
	Korba-III	120.0	120.0
	Korba-I	100.0	100.0
	Amarkantak Extn.	240.0	240.0
	Amarkantak	60.0	60.0
	Others	32.0	20.0
Maharashtra	Koradi 1-4	480.0	480.0
	Koradi-5	200.0	200.0
	Trombay	337.5	330.0
	Nasik-1-2	280.0	280.0
	Nasik-3	210.0	210.0
	Nasik-4	210.0	210.0
	Khaperkheda	90.0	90.0
	Paras	92.5	92.5
	Bhusawal-1	62.5	62.5
	Bhusawal-2	210.0	210.0
	Chola	96.0	40.0
	Parlia 1-2	60.0	60.0
	Parlia-3	210.0	210.0
	Ballarshah	22.5	18.0
	Total for the Region :	5986.5	5849.5
Southern Region			
Andhra Pradesh	Kothagudem 'A'	240.0	240.0
	Kothagudem 'B'	220.0	220.0
	Kothagudem 'C'	220.0	220.0
	Vijaywada	420.0	420.0
	Ramagundam 'B'	62.5	62.5
	Ramagundam 'A'	37.5	20.0
	Nellore	30.0	30.0
	Hussain Sagar	12.5	10.0
	Others	20.0	20.0
Tamil Nadu	Neyveli	600.0	600.0
	Ennore	450.0	450.0
	Tuticorin	210.0	210.0
	Basin Bridge	90.0	90.0
	Total for the Region	2612.5	2592.5

1	2	3	4
Eastern Region			
Bihar	Patratu	620·0	620·0
	Barauni	145·0	145·0
D.V.C.	Chandrapura	780·0	780·0
	Durgapur	290·0	250·0
	Bokaro	247·5	227·5
Orissa	Talchar	250·0	250·0
West Bengal	C.E.S.C.	412·5	328·0
	Bandel	330·0	320·0
	D.P.L.	285·0	280·0
	Santalalih	360·0	360·0
	Others	135·0	128·0
Total for the Region		3855·0	3688·5
Northern Eastern Region			
Assam	Kamrup	111·5	111·5
	Chandrapur	30·0	30·0
Total for the region		141·5	141·5
Total for the thermal		16534·1	16147·0
Nuclear	Tarapur	420·0	420·0
	R.A.P.S.	440·0	440·0
Total for Nuclear		860·0	860·0
All India Total Including Nuclear		17394·1	17007·0

TABLE 17.4
POWER
PROJECTS
(Hydro)

Names of the Hydro power stations with Generating Capacity			
Region/State	Name of station	Capacity	
		Installed	Derated
1	2	3	4
Northern Region			
Bhakra Beas Management Board	Bhakra Right	600·0	600·0
	Bhakra Left	450·0	450·0
	Gangwal	77·5	77·5
	Kotla	77·5	77·5
Beas Construction Board	Dehar	660·0	660·0
	Pong	240·0	240·0
Himachal Pradesh	Giri Bata	60·0	60·0
	Bassi	45·0	45·0
	Baira Siul	120·0	120·0
Jammu & Kashmir	Lower Jehlum	105·0	105·0
	Salal Hydrel	71·4	70·0
Rajasthan	Rana Pratap Sagar	172·0	172·0
	Jawahar Sagar	99·0	99·0

1	2	3	4
Punjab	Shanan	51·0	43·0
	UBDC	45·0	45·0
Uttar Pradesh	Rihand	300·0	3300·0
	Yamuna Stage-II	240·0	240·0
	Yamuna Stage-I & V	114·8	114·8
	Chilla**	108·0	108·0
	Obra	99·0	99·0
	Ganga Canal	45·2	45·2
	Khatima	41·4	41·4
	Matatila	30·0	30·0
	Ramganga	198·0	198·0
	Total for the Region ..	4049·8	4040·4
Western Region			
Gujarat	Ukai	300·0	300·0
Madhya Pradesh	Gandhi Sagar	115·0	115·0
Maharashtra	Koyna	880·0	880·0
	Tata	276·0	276·0
	Vaiterna	60·0	60·0
	Others	47·5	47·5
	Total for the region .	1678·5	1678·5
Southern Region			
Andhra Pradesh	Lower Sileru	400·0	400·0
	Upper Sileru	120·0	120·0
	Machkund	114·7	114·7
	Nagarjuna Sagar	210·0	210·0
	T.B. Dam	72·0	72·0
	Nizam Sagar	10·0	10·0
Karnataka	Sharavathy	891·0	891·0
	Kalinadi	270·0	270·0
	Jog	120·0	120·0
	Bhadra	33·2	33·2
	Shivasmudram	42·0	30·0
	Shimshapura	17·2	16·0
	Munirabad	27·0	27·0
	Lingnamakki	55·0	55·0
Kerala	Idukki	390·0	390·0
	Sabarigiri	300·0	300·0
	Kuttiady	75·0	75·0
	Sholayar	54·0	54·0
	Sengulam	48·0	48·0
	Neriamanglam	45·0	45·0
	Pallivasal	37·5	37·5
	Poringal	32·0	32·0
	Panniar	30·0	30·0
Tamil Nadu	Kundah I to V	535·0	535·0
	Mettur	240·0	240·0
	Periyar	140·0	140·0
	Kodayar 1 & 2	100·0	100·0
	Sholayar 1 & 2	95·0	95·0
	Pykara	70·0	70·0
	Aliyar	60·0	60·0
	Sarkarpathy	30·0	30·0
	Moyar	36·0	36·0
	Suruliyar	35·0	35·0
	Papanasam	28·0	28·0
	Total for the Region	4762·6	4749·4

1	2	3	4
Eastern Region			
Bihar	Kosi	15.0	15.0
	Subernarekha	130.0	130.0
D.V.C.	Maithon	60.0	60.0
	Panchet	40.0	40.0
	Tilaiya	4.0	4.0
Orissa	Balimela	360.0	360.0
	Hirakud	270.0	270.0
West Bengal	Small Stations	33.0	33.0
Sikkim	Lower Lagyap	12.0	12.0
Total for the Region		924.0	924.0
North Eastern Region			
Meghalaya,	Kyrdemkulai	60.0	60.0
	Small Stations	65.2	65.2
Tripura, Nagaland	Small Stations	11.5	11.5
Total for the Region		136.7	136.7
All India Total		11551.6	11529.0

INTER- NATIONAL CO-OPERATION

India has been co-operating with neighbouring countries in the field of power development.

The co-operation between India and Nepal in the field of power development has been varied and significant. India has financed and constructed the 21 mw hydro-electric project at Trisuli, one of the important sources of power supply in Nepal. Multipurpose-developments in the Gandak and Kosi basins have been taken up for mutual benefit under agreements between the two countries. The Gandak Project includes a 15 mw power station, which is being financed and constructed by India. This station, which is expected to be commissioned soon, will ultimately be handed over to Nepal. A 20 mw hydel station is included under the Kosi Project. Three units of 5 mw at this power station have already been commissioned. Financed and constructed by India, the benefits from this project would be shared between the two countries. There is an agreement under which power is being exchanged between Nepal and India at Border points, mainly to supply electricity to isolated villages.

A major step in Indo-Bhutan co-operation in the field of power was taken with the signing of an agreement in 1974 for the implementation of the Chukha Hydro-Electric Project. The project will be implemented by Bhutan and funded by India. The power generated would first be used to meet the needs of Bhutan and the surplus power would be bought by India. India has been providing assistance to Bhutan in establishing micro-hydel stations and associated distribution facilities. The foot-hill towns of Phuntsholing and Samchi in Bhutan receive power from Jaldhaka Project located on the border between India and Bhutan, which has been developed under an agreement between the two countries for mutual benefit.

India and Bangladesh have constituted the Indo-Bangladesh Joint Power Co-ordination Board to maintain liaison between the two countries and identify areas of co-operation in the field of power.

India has assisted Afghanistan in the construction and commissioning of the first stage of the Chardeh-Ghorband project (3×100 kw). Recently, India agreed to supply generating and transmission equipment for the second stage extension of the Chardeh-Ghorband project (1×100 kw) and Bamain (3×250 kw), Faizabad (3×85 kw) and Khulm (2×100 kw) micro-hydel projects. Ninety per cent of the equipment for all the projects has already been supplied and the balance is being procured.

POWER RESEARCH

The Central Power Research Institute was established in 1960 for taking up an effective programme of power research in the context of an expanding power supply industry and now functions as an autonomous society. The institute has two units—one at Bangalore and the other at Bhopal. Bangalore Unit has a high-voltage laboratory, an insulation laboratory, a partial discharge detection division, a transmission and distribution division, a power system division, and an instrumentation development division.

The Bhopal unit has a switch-gear testing and developing station. The Institute has carried out important research in the area of insulation and it has also been providing testing and consultancy services in respect of switch-gear, HRC fuses, power cables, PVC cables, etc., for a number of organisations. A large tower testing station which is capable of testing transmission line towers upto 750 kv rating has recently been commissioned at Bangalore. A 2,500 MVA short circuit testing station with synthetic testing facilities is being set up at Bangalore by the society.

COAL

Coal has been recognised as the backbone of our energy as it is found in abundance in the country. Coal has the advantage that it can be converted into other forms like gas, electricity and even oil. The energy requirements of the country even today, are being met by generation of electricity from coal. Coal production during 1979-80 was about 10.4 crore tonnes and the estimated production during 1980-81 is 11.3 crore tonnes. The production target for 1981-82 has been set at 12.1 crore tonnes.

During 1980-81 (up to March 1981) 15 coal mining projects were sanctioned by the government (besides those sanctioned by the coal companies) for a targetted capacity of 1.5 crore tonnes per annum at an estimated cost of Rs 318 crores.

In respect of Singareni Collieries Company Ltd., during 1980-81 (upto March 1981), four projects including two advance proposals, were sanctioned by the government for a targetted capacity of 0.329 crore tonnes at an estimated cost of Rs 77.08 crores.

Fuel Policy Committee Report and Report of the Working Group on Energy Policy

A comprehensive analysis of the energy sector was made by the Fuel Policy Committee (FPC). It submitted a report in August 1974. For the first time the need for a coordinated approach to the development and supply of various sources of energy and the need for formulation of a comprehensive energy policy was stressed in the report. The approach of the government in the energy sector is guided by this document. There were several important developments in the energy sector at home and abroad since the submission of the FPC report in

1974. A fresh look into the earlier policy outline accepted by the government was therefore necessary. In this background, the Planning Commission constituted a working group with Secretary (Power) as its Chairman. The working group was to carry out a comprehensive review of the current energy situation to develop a perspective for the development of the energy sector and also for evolving appropriate policy measures for optimum utilisation of available energy resources. It submitted its report in November 1979. In its report, the working group has estimated that the coal requirement by 1989-90 will be around 260 metric tonne. Necessary follow-up actions are since being taken for meeting the increased demand of coal.

Coal Mining

Coal mining was first started at Raniganj, West Bengal in 1774. After Independence, coal mining was stepped up and production has already risen from 3.2 crore tonnes in 1950 to well over 10 crore tonnes.

The Government of India nationalised the coking coal mines in 1972 and the non-coking coal mines the following year. As a result, the production of coal in the country is now almost completely in the public sector. The only important mines which have not been nationalised are the captive coking coal mines of the two private sector steel companies.

The production of coal in public sector is organised mainly by Coal India Limited through its subsidiary companies. These are Eastern Coal Fields Ltd., Bharat Coking Coal Ltd., Central Coal Fields Ltd., Western Coal Fields Ltd. and Coal Mines Planning and Design Institute Ltd. The Singareni Collieries Company Ltd., a public sector undertaking, is also engaged in coal production.

Coal Washeries

Fifteen Coal Washeries are operating for the benefit of coking coal. There is also a small washery for non-coking coal. In April 1980, a medium coking coal washery with an annual input capacity of 1.20 metric tonne was sanctioned by the government. It would be set up at Kandla at a cost of Rs 32.37 crores.

The Coal Board was abolished in April 1975 under an Act of Parliament. As a result of it, the work of conservation and safety in coal mines is undertaken directly by the Coal Company under the direction of Coal Conservation and Development Advisory Committee constituted under CM (C&D) Rules 1975.

Low Temperature Carbonisation

The Department of Coal has taken interest in low temperature carbonisation of coal for producing smokeless domestic coke and gas for the industrial and domestic consumers. One plant went into production in 1979 in Andhra Pradesh and another is under construction near Calcutta.

Lignite

Lignite, though inferior in calorific value (one tonne of Gondwana coal equals about 2 tonnes of lignite), is particularly important to western and southern regions due to the geographical location of the deposits and the absence of coal in these regions. Out of a total reserve of lignite in the country, about 3.3 crore tonnes are available in the Neyveli Tamil Nadu area alone.

The integrated lignite project at Neyveli was set up during the Second Plan for mining of lignite. The capacity of the project is being increased in the first instance to 45 lakh tonnes and ultimately to 65 lakh tonnes from the present production of 35 lakh tonnes. In

February 1978, the government sanctioned opening of a second mine with an annual capacity of 47 lakh tonnes per annum at an estimated cost of Rs 144.47 crores and a second thermal power station with a capacity of 630 mw at an estimated cost of Rs 213.98 crores. Present production is being used for power generation, fertiliser and loco production.

The quantity and value of lignite produced from 1974-75 to 1979-80 is given in table 17.5.

TABLE 17.5
PRODUCTION OF
LIGNITE

Year	Quantity (Lakh tonnes)	Value (Rs crores)
1974-75	28.1	13.70
1975-76	28.3	14.97
1976-77	40.2	18.61
1977-78	35.80	19.50
1978-79	33.00	25.07
1979-80	28.97	26.96

OIL

Petroleum industry in India has made headway only after independence. Starting from a modest level of indigenous crude production of around 2.5 lakh tonnes and consumption level of 34 lakh tonnes in the year 1950-51, crude oil production during 1979-80 was 1.18 crore tonnes and the consumption level around 3.09 crore tonnes. About 1.61 crore tonnes of crude oil and 44.78 lakh tonnes of petroleum products were imported to meet the country's requirement in 1979-80. The refinery throughput during 1979-80 stood at 2.75 crore tonnes.

The oil industry in India is divided into three broad segments, viz., (i) oil exploration and production; (ii) refining and marketing and (iii) petrochemical and downstream units.

There are two principal organisations which are engaged in the exploration and production of crude oil in the country. They are the Oil and Natural Gas Commission (ONGC), wholly owned by the Government of India and Oil India Ltd. (OIL), a joint sector undertaking. To a very limited extent, Assam Oil Company (AOC) is also engaged in the production of crude oil, but because of its fast depleting reserves in Assam area, its production is negligible.

Oil and Natural Gas Commission

The ONGC, set up in 1956, is the principal government agency responsible for the exploration and production of oil in both onshore and offshore areas of the country. During 1979-80, it produced over 95 lakh tonnes of crude oil and 165.54 lakh cubic metres of natural gas. During 1980, ONGC carried out exploratory drilling in a number of new structures both onland and offshore and found indications of hydrocarbons in the structures at Godavari (G-1-1), Ratnagiri (R-7), Andamans (An-1-1) and Porto-Novo (Py-1-1) in the offshore and Dahej-1 in the onshore.

A significant achievement of ONGC has been the development of Bombay High. With the commissioning of the SA Platform Complex in Bombay High South, the production rate has been stepped up to 1,20,000 barrels per day (equivalent to 60 lakh tonnes per annum) in October 1980. On completion of the Phase III programme, a production rate of 1,40,000 barrels per day (equivalent to 70 lakh tonnes per annum) will be achieved. A proposal for the development of R-12

structure in the Ratnagiri offshore at an estimated cost of Rs 36.28 crores has already been approved by the government to achieve a production rate of 20,000 barrels per day (equivalent to 10 lakh tonnes per annum) by 1982.

Besides, the programmes to step up the activities of ONGC and OIL, the government has decided to throw open 32 blocks for exploration by foreign parties on production sharing basis. Thirty-five parties have been shortlisted to invite bids for the seventeen offshore and fifteen onshore blocks. It is expected that the exploration work by the selected foreign oil companies under this arrangement would commence in some of the areas by the field season of 1981-82.

The Oil India Ltd. was established in February 1959 on a 50 : 50 partnership basis, between government of India and Burmah Oil Company of UK for exploration and production of crude oil and natural gas in Assam and Arunachal Pradesh. The Company has also completed an aeromagnetic survey of their PEL (Petroleum Exploration Licence) areas (both onshore and offshore) in the Mahanadi delta region. During 1979-80, it produced 22.15 lakh tonnes or roughly about 19 per cent of the total crude oil production in the country. Up to December 1980, it had drilled 429 wells and had produced in all about 4.78 crore tonnes of crude oil.

There are at present 11 refineries, 10 in the public sector and one tiny refinery of Assam Oil Company (AOC) in the private sector. The 11 refineries together processed 2.75 crore tonnes of crude oil during 1979-80 of which 2.33 crore tonnes was in the public sector and 4.10 lakh tonnes in the private sector.

The private sector refinery (AOC) is at Digboi. The Burmah-Shell Refinery at Trombay and Caltex Refinery at Visakhapatnam together with their marketing associates were taken over by the government in 1976. The Burmah Shell Refinery was renamed as Bharat Petroleum Corporation Ltd., (BPCL) and the Caltex Oil Refining (India) Ltd., was amalgamated with the Hindustan Petroleum Corporation Ltd. (HPCL), in May 1978. The other public sector refineries at Gauhati, Barauni, Koyali and Haldia are owned by the Indian Oil Corporation Ltd., (IOC), while those at Cochin, Madras are owned by joint sector companies. Table 17.6 gives refinerywise details of the years of commencement of production, their present capacities and actual crude throughput during 1977-78, 1978-79 and 1979-80.

TABLE 17.6
CAPACITY AND
PRODUCTION OF
REFINERIES

Name of refinery	Year in which production commenced	Capacity (lakh tonnes) 1-4-79	Actual crude run (lakh tonnes)		
			1977-78	1978-79	1979-80
Barauni (IOC)	1964	33.0	30.6	26.61	22.85
BPCL Bombay	1955	52.5	45.12	46.93	48.21
Cochin	1966	33.0	29.33	28.62	28.66
Digboi	1901	5.0	5.34	5.24	4.08
Gauhati (IOC)	1962	8.5	8.17	8.25	6.46
Haldia (IOC)	1975	25.0	20.96	22.13	24.92
HPCL Bombay	1954	35.0	28.97	28.00	31.33
HPCL Vishakhapatnam	1957	15.0	13.04	13.29	10.99
Koyali (IOC)	1965	73.0	41.29	52.51	67.08
Madras	1969	28.0	26.16	27.59	28.22
BR & PL	1979	10.0	—	0.57	1.90

Oil India
Limited

Refineries

The capacity of the Koyali refinery has been increased from 43 lakh tonnes to 73 lakh tonnes. The new refinery at Bongaigaon in Assam, with an annual capacity of 10 lakh tonnes has recently been completed and in February 1979 its crude distillation unit went on stream.

NEW REFINERY PROJECTS
Mathura

A new refinery is being set up at Mathura in Uttar Pradesh with a capacity of 60 lakh tonnes per annum. Crude oil for the refinery to be obtained through imports and from Bombay High will be received at a location in the Gulf of Kutch and transported across over a distance of 1,115 km by pipeline to Mathura. The refinery is expected to be commissioned by the end of 1981.

Pipelines

Prior to 1964-65, a pipeline had been constructed to transport the crude from the Naharkatiya oil fields to Gauhati and Barauni Refineries. Since then various multi-product pipelines have been laid. These are Gauhati-Siliguri, Koyali-Ahmedabad, Barauni-Kanpur and Haldia-Maurigram-Rajbandh pipelines. There is also a network of pipelines in Gujarat for transporting crude oil from the Gujarat oil-fields to the Koyali refinery.

A crude oil pipeline from Salaya to Mathura via Viramgam with a branch line from the latter to Koyali, covering a total pipeline length of 1,220 km. in all the sections is under implementation by the IOC. In September 1978, Salaya-Viramgam-Koyali Section was commissioned and the Viramgam-Mathura section was scheduled to be completed in June 1981 to coincide with the commissioning of the Mathura refinery. A product pipeline from Mathura to Jullundar via Delhi and Ambala covering a distance of 532 km is being constructed by the IOC to meet the distribution requirements of the Mathura refinery.

Madras Refinery Limited

Madras Refineries Limited (MRL) was incorporated as a company in December 1965 with an authorised capital of Rs 13.50 crores, pursuant to the Formation Agreement between the Government of India, National Iranian Oil Company and AMOCO India, Inc., of United States of America. Seventy-four per cent of the equity Capital is held by Government of India and 13 per cent each by the two foreign collaborators. The project was designed to process 25 lakh tonnes per annum of crude oil which was revised to 28 lakh tonnes per annum. A proposal for doubling the refinery capacity to 56 lakh tonnes per annum is under implementation.

Indian Oil Blending Limited

The Indian Oil Blending Limited, a wholly-owned subsidiary of the Indian Oil Corporation is engaged in blending lubricants and greases for IOC. During 1978-79, it had a total production of 2,21,980 tonnes of lubes and 6,234 metric tonnes of grease which are used to improve the performance of the petroleum based lubricants and fuels.

Engineers India Limited

Engineers India Ltd. (EIL) was incorporated in 1965 and became a wholly scale owned Undertaking in 1967. The company renders design engineering and technical consultancy services to organisations both in public and private sectors in the fields of petroleum, refining, pipelines, petrochemicals, fertilisers, chemicals, cement, paper, power, non-ferrous metallurgical plants, ocean engineering and other process-related industries. The company has its own computer system and is rendering services on electronic data processing to various clients. EIL

is acquiring an Interactive Graphic System (IGS) with the assistance of UNDP to introduce computer-aided designs in engineering. The company has also entered the areas of real time systems. It has a large number of assignments on hand for execution in India and abroad.

Lubrizol India Limited

Lubrizol India Ltd. (LIL) was incorporated in July 1966 in collaboration with Lubrizol Corporation of USA. The Government of India hold 60 per cent of the equity share capital and the balance is held by the foreign collaborators. The company manufactures chemical additives for use in petroleum-based fuels and lubricants needed for defence, transport and other sectors of the economy using progressively more and more indigenous raw materials.

Marketing and Distribution

The marketing and distribution of oil products is done by the public sector oil companies with the exception of a small quantity produced and marketed by the private sector Assam Oil Company in the north-eastern parts of the country. As on 1 January 1980, there were 11,831 retail outlets, out of which 4,234 were owned by IOC, 3,296 by BPCL and 3,198 by Hindustan Petroleum Corporation. The bulk of the marketing operations is handled by the IOC besides three other public sector companies operating in the field, viz., Bharat Petroleum Corporation Ltd., Hindustan Petroleum Corporation Ltd., and Indo-Burma Petroleum Co. Ltd. During 1979-80 the IOC accounted for a share of about 60 per cent in the marketing of petroleum products, followed by 17.5 per cent by amalgamated unit of HPCL and 16.8 per cent by BPCL.

Indian Oil Corporation Limited

The Indian Oil Corporation (IOC) was set up in 1964 by amalgamating the Indian Refineries Limited and the Indian Oil Company Ltd. The corporation has two divisions namely, Refineries and Pipelines Division, and Marketing Division. The corporation has a Research and Development Centre at Faridabad (Haryana). The centre provides technical services to customers and is engaged in the development of sophisticated lubricating oils. The centre has developed a new LPG burner with average thermal efficiency of 70 per cent.

The market participation of the corporation was about 60.8 per cent of the total sales of the Oil Industry during 1979-80. The number of retail outlets in operation with IOC stood at 4,310 as on 1 April, 1980. At the end of October 1980, the corporation had a clientele of over 16.99 lakh Indane gas customers spread over 220 towns serviced through 466 distributors.

Cochin Refineries Limited

Cochin Refineries Ltd, (CRL) was incorporated in September 1963 with a designed capacity to process 25 lakh tonnes of crude per annum, which after the expansion of the refinery in August 1973 was raised to 33 lakh tonnes per annum. The products of the refinery liquified petroleum gas, naphta, motor spirit, superior kerosene, high speed diesel, light diesel oil, furnace oil and asphalt are sold to the Indian Oil Corporation for marketing.

The Government of India holds 52.83 per cent of equity shares in the company. Phillips Petroleum of USA 26.43 per cent and Government of Kerala 7.14 per cent. The remaining 13.6 per cent is held by institutions such as Life Insurance Corporation, Unit Trust of India, General Insurance Companies, nationalised banks and the public.

When the scheme for the setting up of the secondary processing facilities is completed by about 1984, the capacity would increase from 33 to 35 lakh tonnes per annum.

Bharat Petroleum Corporation Limited

On 24 January, 1976 government acquired the entire share capital of Burma Shell Refineries Limited, and the assets and liabilities of Burma Shell Oil Storage and Distributing Company of India Limited, in relation to its undertakings in India. Now named as Bharat Petroleum Corporation Limited (BPCL), it has a refinery at Bombay. As on 1 April, 1979, it had a network of 3,281 retail outlets in the country and it handled about 46.01 lakh tonnes of petroleum products during 1978-79. With the setting up of the secondary processing facilities, the capacity of BPCL refinery at Bombay would be increased from the present 52.50 lakh tonnes to 60 lakh tonnes per annum. BPCL has also two lube oil blending plants, one at Bombay and another at Calcutta.

Hindustan Petroleum Corporation Limited

The Hindustan Petroleum Corporation (HPCL) was formed when government took over 74 per cent shares of ESSO Oil Company in India on 14 March 1974. On 1 October, 1976 the remaining 26 per cent shares were also acquired. ESSO had a refinery at Bombay.

On 30 December, 1976 the entire share capital of Caltex undertakings in India was taken over by government and the company was named Caltex Oil Refining (India) Limited. With effect from 9 May, 1978 it has been merged with the Hindustan Petroleum Corporation Limited. Caltex had a refinery at Visakhapatnam. The amalgamated HPCL with a total of 3,197 retail outlets (as on 1 April, 1979) handled about 50.47 lakh tonnes of petroleum products during 1978-79, which constituted about 17.2 per cent of total sales of the industry.

HPCL has two fuel refineries, one at Bombay with an annual capacity of 35 lakh tonnes and another at Vishakhapatnam with a capacity of 15 lakh tonnes per annum. The capacity of Vishakhapatnam unit is being expanded to 45 lakh tonnes per annum. HPCL has also a lube refinery at Bombay.

The main operations of HPCL are petroleum refining, manufacture of lubricating base oils, manufacturing and blending of lubricants, greases and specialties marketing the full range of petroleum products and related automotive accessories all over the country, and bottling, distribution and marketing of liquified petroleum gas.

Indo-Burma Petroleum Company Limited

Apart from marketing petroleum products obtained from IOC this public sector company has two other divisions, namely engineering division and chemicals divisions. The former manufactures high vacuum engineering items like cryo-containers and the latter manufacture industrial explosives.

Indian Oil Blending Plant

Indian Oil Blending Limited, a wholly state-owned subsidiary of the Indian Oil Corporation is engaged in blending lubricants and greases for IOC. During 1979-80, the company achieved throughput of 2.41 lakhs kl of lubes and 5,565 metric tonne of greases.

Multi-purpose Outlets

A scheme for the conversion of the existing retail outlets (petrol pumps), particularly in the rural and semi-urban areas, into multipurpose commodity distribution centres, was launched by the public sector oil companies in 1975. The object of the scheme is to provide

at reasonable prices, to the farmers and landless labourers in rural areas, agricultural inputs like fertilizers and pesticides, and articles of daily necessity under one roof. As on 1 January, 1981 the total number of such outlets in existence was 857, out of which 282 were farm fuel outlets.

Imports
Exports

The indigenous production of crude oil and petroleum products is inadequate to meet the requirements of the country's growing economy. This necessitates imports of crude oil and petroleum products. During 1979-80, the country imported 1.61 crores tonnes of crude oil and 44.78 lakh tonnes of petroleum products. While the foreign exchange spent on the import of crude oil and petroleum products during 1979-80 was about Rs. 3,212 crores, the foreign exchange earned by way of exports/sales amounted to Rs. 24.02 crores.

A century of industrial development pales into insignificance when compared with the rapid industrial stride made during over two and a half decades of planned development. Industrial production increased at an average growth rate of about 5 per cent per annum during the period 1970-78. While almost all groups of industries contributed to this increase, the growth has been particularly marked in the newer and more complex industries, such as, petroleum products, chemicals and chemical products, metal products, electronics and other electrical machinery, transport equipment and power generation. The share of manufacturing sector in the net domestic product increased from 13.9 per cent in 1960-61 to 15.2 per cent in 1978-79.

Side by side, the different five year plan periods saw the expansion and diversification of the industrial structure with the establishment of new units in the existing fields as well as the setting up of new enterprises. As a result, the number of industrial units has increased significantly. In 1951, there were only two major units producing iron and steel. There are now six major steel plants with a capacity of about 87 lakh tonnes. They produced over 60 lakh tonnes of saleable steel during 1979-80. The steel produced by these plants has provided the basis for achieving self-sufficiency in making a number of engineering goods, from a pin to giant machinery. In the field of new industries, agricultural tractors, electronics and fertilizer industries which practically did not exist in 1951, have progressed to such an extent that the import of these products has been brought down to the minimum. The drug industry is also developing fast. The textile industry is no longer confined to the cotton and jute textiles. Today, there are quite a few units producing different types of synthetic fibres. The machine building industry, too, has made rapid strides. The engineering industry can supply virtually the entire requirement of power generating equipment, equipment for railways, road transport and communications. Self-sufficiency has been reached with regard to sugar and cement machinery, power boilers, material handling equipment and a large number of consumer durables.

An important feature of industrial growth in the country after Independence has been the rapid expansion of the public sector. In 1951, there were only five non-departmental public undertakings with an investment of Rs 29 crores. On 31 March 1979, they numbered 176 with an investment of Rs 15.602 crores. These enterprises produce diverse products, such as steel, coal, aluminium, copper, heavy and light engineering products, fertilizers, basic chemicals, drugs minerals, petroleum products, locomotives, aircraft and ships.

PROGRESS AND POLICY

Annual Survey

The provisional summary results for factory sector of the Annual Survey of Industries reveal that the number of registered factories, employing 10 or more workers with the aid of power or employing 20 or more workers without power has increased from 81,277 in 1976-77 to 84,924 in 1977-78, thereby registering an increase of 4.5 per cent. The other aggregates such as fixed capital, productive capital, gross output, total input and value added, also recorded im-

pressive gains ranging between 11 and 15 per cent each during the same period. The total number of employees including unpaid family workers, working proprietors etc., in these factories went up from 66.86 lakhs in 1976-77 to 70.93 lakhs in 1977-78—thereby recording an increase of 6.1 per cent. The total wage bill, registered an increase of 15.4 per cent from Rs 3,637 crores in 1976-77 to Rs 4,196 crores in 1977-78. The profits accruing to the entrepreneur went up by 4.5 per cent from Rs 2,197 crores in 1976-77 to Rs 2,295 crores in 1977-78.

According to state-wise analysis of the gross output in 1977-78, Maharashtra continued to remain at the top accounting for a quarter of the 'total value added by manufacture' generated in the factory sector covered in ASI 1977-78. Next in order came West Bengal (11.6 per cent), Gujarat (10.2 per cent) and Tamil Nadu (9.9 per cent). The other states which contributed sizeably to the value added were Uttar Pradesh (6.4 per cent), Andhra Pradesh (4.9 per cent), Karnataka (4.9 per cent), Bihar (4.8 per cent) and Madhya Pradesh (4.3 per cent). These nine states together accounted for 82 per cent of total value added by manufacture and 81.9 per cent of total gross output originating from the factory sector.

The first five major industry—groups, ranked according to their contribution to value added, were chemicals and chemical products (12.5 per cent), generation of electricity (10.9 per cent), cotton textiles (10.9 per cent), basic metals and alloys (8.8 per cent) and food products (8.2 per cent). These taken together accounted for 51.3 per cent of total value added and 55.6 per cent of total gross output originating from the factory sector. From the angle of employment, food products ranked first (16.8 per cent) among all the industries followed by cotton textiles (15.1 per cent), power generation (8.8 per cent) basic metals and alloys (7.1 per cent). Food products industry ranked first with a share of 16.2 per cent in the total gross output in the factory sector. It was followed by chemicals and chemical products (12.9 per cent). By far, power generation and basic metals and alloys were the two most capital intensive industries with capital—output ratios as high as 9.7 and 3.89 respectively.

INDUSTRIAL POLICY

Independent India's industrial policy was first announced in 1948. This envisaged a mixed economy with an overall responsibility of the government for planned development of industries and their regulation in the national interest. While it reiterated the right of the State to acquire an industrial undertaking in public interest, it reserved an appropriate sphere for private enterprise. The policy was revised in 1956 following Parliament's acceptance in 1954 of a socialistic pattern of society as the national objective. Under the revised policy, industries specified in Schedule A (enumerated below) are the exclusive responsibility of the State, while industries in Schedule B (also enumerated below) are to be progressively State-owned, but private enterprise is expected to supplement the efforts of the State in these fields. Future development of industries falling outside the two Schedules would, in general, be left to private enterprise. Notwithstanding this demarcation, it is always open to the State to undertake any type of industrial production.

Schedule A Industries : Arms and ammunition and allied items of defence equipment; atomic energy; iron and steel, heavy castings and

Profits include land rent

forgings of iron and steel; heavy plant and machinery required for iron and steel production, for mining, for machine tool manufacture and for such other basic industries as may be specified by the central government; heavy electrical plant including large hydraulic and steam turbines; coal and lignite; mineral oils; mining of iron ore, manganese ore, chrome ore, gypsum, sulphur, gold and diamonds; mining and processing of copper, lead, zinc, molybdenum and wolfram; minerals specified in the Schedule to the Atomic Energy (Control of Production and Use) Order 1953; aircraft; air transport; railway transport; ship-building; telephones and telephone cables, telegraph and wireless apparatus (excluding radio receiving sets); generation and distribution of electricity.

Schedule B Industries : All other minerals except 'minor minerals' as defined in Section 3 of the Minerals Concession Rules, 1949; aluminium and other non-ferrous metals not included in Schedule A; machine tools; ferro-alloy and tool steel; basic and intermediate products required by chemical industries, such as, the manufacture of drugs, dyestuffs and plastics, antibiotics and other essential drugs; fertilizer; synthetic rubber; carbonisation of coal; chemical pulp; road transport and sea transport.

Regulation of Industry

In line with the policy first announced in 1948, the Constitution was amended and the Industries (Development and Regulation) Act, 1951 was enacted. Under this, industries listed in the first Schedule to the Act are required to be licensed by the government. The Act also authorises the government to examine the working of any such industrial undertaking and to issue directions which it considers necessary. If the undertaking continues to be mismanaged, the government is empowered to take over its management or control. The Act empowers the government to secure equitable distribution and fair prices of any article produced by the scheduled industries.

Industrial Licensing

An important objective of the industrial policy is to prevent the emergence of private monopolies and the concentration of economic power in the hands of a small number of individual. The problem was studied by the Mahalanobis Committee on Distribution of Income and Levels of Living (1960), the Monopolies Enquiry Commission (1964), and the Industrial Licensing Policy Inquiry Committee (ILPIC) (1967). The Administrative Reforms Commission and the Planning Commission also made various recommendations. As a result, the Monopolies and Restrictive Trade Practices (MRTP) Act was passed in 1969 and under the Act the Monopoly and Restrictive Trade Practices Commission was appointed in 1970. The Industrial Licensing Policy was modified in 1970 and again in 1973.

The latest modifications reaffirmed that the industrial Policy Resolution of 1956 would continue to govern government's policies in the industrial sphere. All industries of basic and strategic importance, or in the nature of public utility services would continue to be in the public sector. Industries which are essential and require investment on a scale, which only the State in the present circumstances could provide would also be in the public sector. Some other salient features of the new changes are :

A large industrial house for licensing purposes would mean a house having assets along with assets of inter-connected undertakings (as defined in the MRTP Act, 1969), of not less than Rs 20 crores as

against assets exceeding Rs 35 crores provided by the ILPIC.

The list of industries, which are open for larger industrial houses and foreign concerns and subsidiaries and branches of foreign companies along with other applicants, has been consolidated. They cannot, however, participate in the production of any item reserved for the public sector as mentioned in Schedule A or the small-scale sector. The consolidated list covers 19 groups, viz., 1. metallurgical industries : (i) ferro-alloys, (ii) steel castings and forgings, (iii) special steels and (iv) non-ferrous metals and their alloys; 2. boilers and steam generating plants; 3. prime movers (other than electrical generators) : (i) industrial turbines, and (ii) internal combustion engines; 4. electrical equipment : (i) equipment for transmission and distribution of electricity, (ii) electrical motors, (iii) electrical furnaces, (iv) X-ray equipment, and (v) electronic components and equipment; 5. transportation : (i) mechanised sailing vessels up to 1,000 dwt, (ii) ship ancillaries, and (iii) commercial vehicles; 6. industrial machinery; 7. machine tools; 8. agricultural machinery, tractors and power tillers; 9. earthmoving machinery; 10. industrial instruments, indicating, recording and regulating devices for pressure, temperature, rate of flow, weights levels and the like; 11. scientific instruments; 12. nitrogenous and phosphatic fertilizers falling under inorganic fertilizers under '18 Fertilizers' in the First Schedule to the I D & R Act, 1951; 13. chemicals (other than fertilizers) : (i) inorganic heavy chemicals, (ii) organic heavy chemicals, (iii) fine chemicals, including photographic chemicals, (iv) synthetic resins and plastics, (v) synthetic rubbers, (vi) man-made fibres, (vii) industrial explosives, (viii) insecticides, fungicides, weedicides and the like, (ix) synthetic detergents and (x) miscellaneous chemicals (for industrial use only); 14. drugs and pharmaceuticals; 15. paper and pulp including paper products; 16. automobile tyres and tubes; 17. plate glass; 18. ceramic : (i) refractories, and (ii) furnace lining bricks—acidic, basic and neutral; and 19. cement products : (i) portland cement and (ii) asbestos cement.

The larger industrial houses would ordinarily be excluded from the industries not included in the 19 groups except where production is predominantly for exports. The minimum export obligation in such cases is to be at least 60 per cent of the additional production (100 per cent in the case of industries normally reserved for small-scale units). The investment of foreign concerns would continue to be subjected to the guidelines on the dilution of 'foreign equity' and would be examined with special reference to technological aspects, export possibilities and the overall effect on the balance of payments.

Competent small and medium entrepreneurs would be preferred *vis-a-vis* the larger industrial houses and foreign concerns in the setting up of new capacity. Licensing policy would seek to promote production of ancillaries in the medium or small-scale sector. Co-operative and small and medium entrepreneurs are to be encouraged to participate in the production of mass consumption goods. Other investors would be allowed to participate only if there are special factors, such as, sizeable economies of scale resulting in reduced prices, technological improvements, large investment requirement, substantial export possibilities or as part of modernisation. The co-operative sector would also get preference in the licensing of industries which process agricultural raw materials, such as, sugarcane, jute, cotton or agricultural inputs, such as, fertilizers.

The policy of reservation for the small-scale sector (involving investment in machinery and equipment up to Rs 20 lakhs) and ancillary industries (involving investment in plant and equipment up to Rs 25 lakhs) has been continued. The government has extended the area of reservation to 834 industries for this sector keeping in view its performance and potentialities.

The exemption limit for licensing purposes, has been raised up to Rs 3 crores by way of fixed assets in land, buildings and machinery. This exemption would not apply to existing licensed or registered undertakings having fixed assets exceeding Rs 5 crores, larger industrial houses, dominant undertakings and to foreign companies including their branches and subsidiaries.

Each proposal for establishing a joint sector project would be judged and decided on its merits in the light of government's social and economic objectives. The undertakings covered by the MRTP Act would not be allowed to use the device of joint sector projects for entry in industries from which they are otherwise precluded. The government would also ensure for itself an effective role in guiding policies, management and operation of joint sector companies.

Liberalisation of Licensing Policy

In pursuance of the liberalised licensing policy, the government decided to exempt from the normal industrial licensing procedure medium entrepreneurs to enable them to set up industrial capacities based on indigenous equipment and local raw materials and also to utilise to a fuller extent the existing installed capacities. Accordingly, 24 medium industries were exempted from the licensing provisions for setting up a new undertaking, substantial expansion of the existing capacity and manufacture of new articles.

Another 29 medium sector industries were allowed fuller utilisation of the installed capacities. This was done with the twin objectives of containing inflation and increasing production in key and important industries.

To liberalise investment procedure, powers have been delegated to administrative ministries to dispose of certain types of applications including those for diversification, carry-on-business licences and extension of validity period of letter of intent or industrial licences.

Automatic growth has been allowed to 19 industries which are open for larger industrial houses and foreign concerns along with other applicants in addition to the 15 engineering industries; particularly export oriented ones, to grow at the rate of 5 per cent per annum or up to a ceiling of 25 per cent in a five year period ending 14 August 1985 in one or more steps over their licenced capacity provided the item is not reserved for small-scale-sector or public sector and the undertaking is not a dominant unit in the particular line of manufacture within the meaning of MRTP Act.

A scheme for providing special facilities to 100 per cent export oriented units has been devised. They include exemption from import duty on capital goods, raw materials and components without indigenous angle scrutiny etc. Further, the MRTP Act has been amended to exclude exports for the purpose of determining the dominance of the units in terms of the MRTP Act. A special Board to be serviced by the secretariat for industrial approvals has been set up to consider all the applications for setting up 100 per cent export oriented units.

With a view to utilising full installed capacity, diversification has

been allowed in industrial machinery, machine tools, electrical equipment, steel castings, steel forgings, steel pipes, passenger cars and power driven two-wheeler industry within the overall licensed capacity of a particular industrial undertaking.

A technical development cell has been set up in the Ministry of Industry to promote full utilisation of capacity to enhance export development efforts. A technical development fund has also been created to cover the foreign exchange needs for import of equipment having an impact on quality and quantity output, technical know-how, foreign consultancy services and import of drawing and designs.

To encourage commercial exploitation of technology developed by national laboratories, industrial undertakings, other than those falling within the purview of the Monopolies and Restrictive Trade Practices Act and Foreign Exchange Regulation Act, can set up capacities based on technology developed by any of the laboratories established by the CSIR and laboratories approved by the Department of Science and Technology without obtaining an industrial licence.

Non-residents of Indian origin have been allowed facilities to import plant and machinery for the establishment of industrial projects in India from their own savings in foreign exchange. These facilities have been liberalised so as to attract remittance and investment in industries in the priority and the export oriented sectors.

STANDARDISATION

National standards for commodities, materials and processes are laid down by the Indian Standards Institution (ISI) which was set up in New Delhi in 1946. It also promotes standardisation and quality control in industrial technology and imparts training in standardisation techniques to Indian and foreign company executives and technical personnel. The number of standards in force as on 30 November 1980 was 10,582.

The Institution also operates the ISI Certification Mark Scheme under which licences are issued to manufacturers for applying the certification mark on their products as a third party guarantee about their quality. The number of licences issued for the use of certification mark on products as on 30 November 1980 was 5,647.

The Institution represents India on the International Organisation for Standardisation and International Electrotechnical Commission.

INDUSTRIAL FINANCE

Institutional finance for industries is provided by several term-lending institutions both at the all-India level as well as the state-level. The institutions which supply industrial finance are described below :

IFCI

The Industrial Finance Corporation of India (IFCI), which was established under an Act of Parliament in 1948 and is now a subsidiary of the Industrial Development Bank of India, provides long-term loan assistance to industrial concerns, both in the public and private sectors. The Corporation also provides training in modern management techniques to its clients. Since its inception and up to 30 September 1980, the total net financial assistance sanctioned and disbursed by IFCI amounted to Rs 1,070 crores and Rs 734 crores respectively.

SFCs

Eighteen state financial corporations including the Tamil Nadu Industrial and Investment Corporation, supply industrial finance to medium and small scale sectors. The total loans sanctioned by them during 1979-80 amounted to Rs 302 crores as against Rs 194 crores

during 1978-79. The total loans sanctioned by the corporations since inception and up to March 1980 aggregated to Rs 1,571 crores.

IDBI

The Industrial Development Bank of India (IDBI) was set up in 1964 to co-ordinate the activities of other financial institutions (including banks), supplement their resources to plan and promote industries of key significance to the industrial structure and to adopt and enforce a system of priorities in promoting future industrial growth. In order to enlarge the role of the IDBI as the apex financial institution and to achieve more effective co-ordination among all financial institutions in the country, IDBI was delinked from the Reserve Bank of India and made an autonomous corporation owned by the Government of India with effect from 16 February 1976.

The main thrust of the Bank in the future, would be that of an innovator imparting new directions in the sphere of industrial finance. The principal functions and operations of the Bank have been entrusted to three separate wings—the domestic finance wing, the international finance wing and the small and village industries wing. The former handles all aspects of domestic project assistance, including selection and scrutiny, financing and follow-up and the latter offers improved and wider financial and advisory services to engineering exporters and functions in fact, as an Export Bank. This wing also handles foreign lines of credit such as those from the International Development Association made available to the IDBI for financing industrial development. The third wing is to promote the growth of small and village industries.

The emphasis is on the programmes that result in assistance to small and new entrepreneurs and to enterprises located in relatively under developed regions, projects which use indigenous technology and have greater employment potential; projects which earn or save foreign exchange; and all other projects accorded priority in our national programmes for economic development in order to expedite assistance to these priority areas, the IDBI has effected substantial decentralisation of the Bank's operations. The IDBI has regional offices at Ahmedabad, Calcutta, Gauhati, Madras and New Delhi apart from 11 branch offices in various states.

The Bank had sanctioned up to 31 December 1980 financial assistance (excluding guarantees) totalling Rs 6,170 crores, of which Rs 4,068 crores had been disbursed.

ICICI

The Industrial Credit and Investment Corporation of India (ICICI) was set up in 1955. Since its inception and upto 30 September 1980, the total amount sanctioned and disbursed was Rs 1,444 crores and Rs 1,013 crores respectively.

IRCI

The Industrial Reconstruction Corporation of India (IRCI), which was set up in 1971, is mainly concerned with the revival and revitalisation of industrial units which have closed down or are facing closure but show promise of viability by reconstruction of share capital, strengthening of management, provision of finance on soft terms, improvement in technology and labour relations. Upto 30 September 1980 IRCI had sanctioned loan assistance of Rs 85 crores.

NIDC

The National Industrial Development Corporation (NIDC) was set up in 1954 for the rehabilitation and modernisation of cotton textile

and jute industries and for the expansion of machine tool units. It is providing engineering consultancy services both at home and abroad. The Corporation's consultancy services are being increasingly utilised by developing countries as well as international agencies such as UNIDO, Commonwealth Secretariat etc.

UTI

The Unit Trust of India (UTI), was established in 1964 as a public sector investment institution for mobilising the savings of the community and channelising them into productive corporate investments so as to provide for the growth and diversification of the economy.

To achieve this, UTI sells 'Units' of the denomination of Rs 10 to public to provide an opportunity to investors, particularly those belonging to small and medium income groups indirectly to participate in the ownership of shares and debentures of joint stock companies. For this purpose UTI has formulated three schemes for selling 'Units', namely Unit Scheme 1964, Unit Scheme 1971 and Unit Scheme 1976. In order to cater to specific investment needs of different types of investors, UTI framed specific savings plans linked to the Unit Schemes, viz., Reinvestment Plan 1966, Children's Gift Plan 1970 and Unit-Linked Insurance Plan 1971.

FOREIGN
CAPITAL

To supplement the capital resources and know-how for rapid industrial development, the Government of India allows foreign assistance in desirable cases. The policy in regard to foreign capital is governed by the Industrial Policy Resolution of 1948 and the Prime Minister's statement in the Constituent Assembly in 1949. Under this, the government's policy towards foreign investment is highly selective and aims at filling technological gaps and expanding exports. Foreign capital is not permitted in the fields of banking, commerce, finance, plantations, trading, consumer and high profit yielding industries.

Under section 29 of the Foreign Exchange Regulation Act, 1973, companies incorporated abroad and Indian companies having more than 40 per cent non-resident interest are required to obtain fresh permission of the Reserve Bank of India to carry on their existing business activities in India.

According to the guidelines issued by the government, branches of foreign companies would be required to convert into Indian companies with foreign holdings ranging from 40 per cent, 51 per cent and 74 per cent. The Indian companies with more than 40 per cent non-resident interest would also be required to reduce the foreign holdings to 74 per cent or 51 per cent or 40 per cent depending upon the nature of business activities.

DEVELOPMENT
OF INDUSTRIES

The history of organised industry in India may be traced to 1854 when the real beginning of the cotton mill industry was made in Bombay with predominantly Indian capital and enterprise. The foundations of jute industry were laid near Calcutta in 1855, mostly with foreign capital and enterprise. Coal-mining also progressed about this time. These were the only major industries which had developed substantially before the First World War. During and after World Wars I and II, a somewhat more liberal policy was adopted by the authorities, such as, a discriminating protection policy, which gave impetus to industrial development. Several industries rapidly expanded and a number of new industries came up, such as, steel, sugar, cement, glass, industrial chemicals, soap, vanaspati and some branches

of engineering. But their production was neither adequate in quantity for meeting even the low level of internal demand nor diversified in character.

*Progress
First and Second
Plans*

During the First and Second Five Year Plans (1951-52 to 1960-61), the growth and diversification of industry were remarkable, particularly in the Second Plan. Three new steel plants, each of 10 lakh ingot tonnes capacity, were set up in the public sector and the capacity of the two existing steel works in the private sector was doubled. Foundations were laid of heavy electrical and heavy machine tools industries and heavy machine building and other branches of heavy engineering industries. The production of machinery for cement and paper industries was started for the first time. In chemical industries the advance was on a wide front, leading not only to large units and greatly increased output of basic chemicals, such as, nitrogenous fertilizers, caustic soda, soda ash and sulphuric acid, but also in the manufacture of a number of new products like urea, ammonia phosphate, penicillin, synthetic fibres, industrial explosives, polythylene and dye-stuffs. The output of many other industries like bicycles, sewing machines, telephone and electrical goods, increased substantially. New skills were learnt by the workers and a large and growing class of industrial managers came into being. Organised industrial production practically doubled in these ten years; the index of industrial production rose from 100 in 1950-51 to 194 in 1960-61. New industrial townships and factories sprang up in the environs of the main cities of the country.

At the same time, there were some large shortfalls. The combined output of the new steel plants was only 6 lakh tonnes in 1960-61 as against the target of 20 lakh tonnes. The expansion of the government-owned Sindri Fertilizer Factory and the private sector ammonium chloride project at Varanasi were completed 12 to 18 months after the scheduled dates. The three fertilizer plants in the public sector at Nangal, Neyveli and Rourkela and the heavy electrical project at Bhopal were delayed, mainly due to foreign exchange difficulties. The heavy machinery, the mining machinery and the foundry forge projects, which should have been far advanced, began to yield some output only at the end of the Third Plan.

Targets of capacity and production in most cases were, however, fulfilled, and in some cases, for example, power-driven pumps, diesel engines, electric motors, electric fans, radio receivers and sugar, the targets were exceeded.

Dispersal of industry was affected by giving preference in location of public sector projects of relatively backward areas whenever possible. Similarly, in the licensing of private sector projects, the claims of under-developed regions were kept in view.

*Third Plan and
Annual Plans*

Industrial progress was markedly uneven during the eight years which comprised the Third Plan (1961-66), and the subsequent Annual Plans (1966-69). In the first four years, conditions were relatively favourable for industrial investment and growth and the progress achieved was significant. Thereafter, for nearly three years the economy was subjected to considerable stress and strain and the growth rate in industrial production declined, first slowly and then steeply, till it reached virtual stagnation. But in the last year of this period, 1968-69, there were distinct signs of recovery.

These vicissitudes may be illustrated with reference to the index of industrial production. The increase in industrial output (1960 as base) was 11.3 per cent in 1961-62, 9.5 per cent in 1962-63, 9.3 per cent in 1963-64 and 8.8 per cent in 1964-65. Thereafter, there was a sharp deterioration in the rate of growth of output. It fell to 5.3 per cent in 1965-66, 0.6 per cent in 1966-67 and 1.6 per cent in 1967-68. The decline in these years was mainly due to low rates of growth in textiles and food industries, on the one hand, and metals and machinery industries on the other. Industrial production, however, showed a sharp recovery during 1968-69 with a rise of 6.8 per cent.

The decline in industry growth after 1964-65 was attributable to several factors, of which the most important were the series of dislocations caused by the hostilities in 1965 and two successive droughts in 1965-66 and 1966-67. Many industries were severely affected by the shortage of raw materials and components arising from the pause in external aid in 1965.

Among industries in which Third Plan production targets were fully or nearly realised by 1965-66, were aluminium, automobiles electric transformers, cotton textile machinery, machine tools, sugar, jute textiles, power-driven pumps, diesel engines and petroleum products. On the other hand, in some of the important industries like steel and fertilizers, there was a considerable shortfall in production. In subsequent years, there was a step-up in production in certain industries such as fertilizers, heavy chemicals, cement and petroleum products. All the same, the Third Plan targets for steel and fertilizers were not realised even by 1968-69, the output of finished steel being 47 lakh tonnes in 1968-69 against the Third Plan target of 68 lakh tonnes and of introgenous fertilizers being 5,41,000 tonnes against an expected 8,00,000 tonnes.

In spite of this uneven performance, significant achievements contributing towards the realisation of diversified industrial structure were made during this period. Substantial capacity was created in many new lines. Several of the large projects launched at the commencement of the Third Plan were completed and brought into production. In particular, in the field of heavy engineering and machine-building industries, the commencement of production of the different units in the Heavy Engineering Corporation, Mining and Allied Machinery Corporation and of heavy electrical projects made it possible, largely through indigenous efforts, the expansion of further capacity in vital sectors like iron and steel, mining and power generation. In the field of rail and road transport and communications, virtual self-sufficiency for the supply of equipment and rolling stock was achieved. Machinery manufacturing capacity for a variety of traditional industries like textiles, sugar and cement was developed and design and engineering capabilities were expanded. Process technology was either acquired or developed to enable the planning, designing and construction of industrial projects with maximum indigenous efforts in fields like fertilizers, rayon and dissolving pulp. There was an appreciable increase in the production capacity of steel and non-ferrous metals. Progress was made in the expansion of capacity in petroleum, fertilizer and petro-chemical industries.

of expectations both in terms of production and investment. Industrial production, which was expected to achieve an annual growth rate of 8 to 10 per cent during the Plan period on the basis of the proposed investment—Rs 3,505 crores in the public sector and Rs 2,250 crores in the private sector—was : 7.3 per cent (1969-70); 3.1 per cent (1970-71); 4.8 per cent (1971-72); 4.0 per cent (1972-73) and 2.2 per cent (1973-74). The investment on industrial development in the public sector was estimated to be about Rs 2,700 crores as against the provision of Rs 3,050 crores. While the pace of investment in some of the sectors like iron ore, petroleum and petro-chemicals was generally satisfactory, this was not so in respect of other sectors like iron and steel, non-ferrous metals, fertilizers and coal. In fact, the shortfall in overall investment was much larger, if account was taken of the escalation in project costs.

A number of factors were responsible for the unsatisfactory growth in industrial production. While in some of the critical industries steel and fertilizers, production remained substantially below the installed capacity on account of operational problems in different units, other agro-based industries like sugar and textiles showed an erratic trend. The inadequate pace of investment resulted in a reduced demand for industrial machinery, adversely affecting the level of output of the capital goods industries. Production in other engineering industries was also hit by the shortage of steel and non-ferrous metals.

On the positive side, there was a substantial production increase in several industries like alloys and special steels, aluminium, automobile tyres, petroleum refinery products, electronics, machine tools, tractors and heavy electrical equipment. The production in the public sector undertakings also showed an encouraging rise towards the closing years of the Plan. Apart from this, the industrial base was further expanded and a greater degree of sophistication and self-reliance achieved.

Fifth Plan

The Fifth Plan laid emphasis on rapid growth of core sector industries and increase in the production of export-oriented goods and articles of mass consumption. The average rate of growth of industrial sector was estimated at 7 per cent per annum in the revised plan. The sharp increase in the prices of food-grains, fertilizers and oil seriously upset the assumptions on which the draft Fifth Plan had been framed. These new developments also lent urgency to a time-bound programme of action in order to achieve a measure of self-reliance in food and energy. The successive Annual Plans had to be formulated on the basis of these considerations.

The draft Fifth Five Year Plan (1974—79) envisaged a total outlay of Rs 53,441 crores, comprising Rs 37,160 crores for public sector and Rs 16,144 crores for private sector respectively. However, due to the emergence of an unprecedented inflationary situation as a result of a steep increase in oil prices in November 1973, the Plan had to be drastically modified in 1976. The revised plan envisaged a total outlay of Rs 69,351 crores comprising Rs 42,303 crores for public sector and Rs 27,048 crores for the private sector respectively. The public sector outlay included Rs 3,000 crores as investment on inventories. The remaining public-sector outlay of Rs 39,303 crores as current outlay. The private sector outlay had been raised from Rs 16,000 crores in the draft plan to Rs 27,000 crores in the revised plan.

Of the revised public sector outlay of Rs 39,322 crores during the Fifth Plan, the share of industries and minerals sector amounted to Rs 7,362 crores or 18.7 per cent of the total outlay. The outlay for large and medium industries was Rs 6,852 crores and that of village and small industries Rs 510 crores.

As against an average rate of growth of industrial production of 7 per cent envisaged during the Fifth Plan, the actual rate of growth achieved during the first four years of the Fifth Plan was : 2.6 per cent for 1974-75; 6 per cent for 1975-76; 9.5 per cent for 1976-77 and 3.9 per cent for 1977-78.

The Fifth Five Year Plan was terminated one year ahead and it was decided to formulate a new five year plan from 1978-79 itself. Accordingly a draft Five Year Plan for 1978—83 was formulated in April 1978.

Draft Sixth Plan The Sixth Five Year Plan (1980-85), envisages a total public sector plan outlay of Rs 97,500 crores. It aims at a growth rate of 5.2 per cent per annum in gross domestic product and of 3.3 per cent per annum in per capital income.

PUBLIC SECTOR

Over the last three and a half decades, the public sector has emerged as a major factor in the country's economic growth. The public sector in industry comprises : (i) public utilities like the railways, road transport services, ports, posts and telegraphs, power and irrigation projects; (ii) departmental undertakings of the central and state governments, such as, the Chittaranjan Locomotive Works, the Integral Coach Factory at Perambur and various defence production establishments; and (iii) number of other industrial undertakings which derive their finances almost wholly either from the central government or the state governments in the form of equity capital and loans. While (i) and (ii) have been dealt with at length in other chapters of this book and details of the working of (iii) are given later in this chapter, some salient features of this category are given below :

On 31 March 1979 there were 176 central government public undertakings excluding the Insurance Corporations, the National Textile Corporation and its subsidiaries and three companies which come under Section 25 of the Companies Act, 1956 and whose activities are not commercial in nature. Of these, 166 were enterprises producing and selling goods and enterprises rendering services and 10 were under construction. The number of such units and the expansion of investment in them since the commencement of the First Five Year Plan is shown in table 18.1.

Investment

Investment (equity and loan) grew from Rs 4,301 crores in 1969-70 to Rs 15,602 crores in 1978-79.

Turnover

Total turnover of the undertakings amounted to Rs 17,556 crores during 1977-78 as against Rs 14,542 crores in the previous year registering an increase of 20.7 per cent. The pattern of turnover in the enterprises during 1975-76, 1976-77 and 1977-78 is given in table 18.3.

TABLE 18.1
EXPANSION OF
INVESTMENT IN
PUBLIC SECTOR

Period	Number of Enterprises	Investment (Rs. crores)	Average annual growth rate (per cent)
<i>At the commencement of</i>			
First Plan	5	29	—
Second Plan	21	81	36
Third Plan	48	953	233
<i>At the end of the Third Plan (as on 31 March 1966)</i>			
	74	2,415	31
<i>As on 31 March</i>			
1970	91	4,301	10
1972	101	5,052	8
1973	113	5,571	10
1974 (end of the Fourth Plan)	122	6,237	12
1975	129	7,261	16
1976	129	8,973	23.6
1977	145	11,097	24.8
1978	153	12,851	15.8
1979	176	15,602	—

Exports

The value of exports by public sector undertakings during 1977-78 was Rs 406 crores as against Rs 422 crores in the preceding year. Foreign exchange earned by other than through exports (ship repairs, freight earnings), amounted to Rs 498 crores in 1977-78 as against Rs 408 crores in 1976-77. The value of exports canalised through trading concerns came down from Rs 1,416 crores in 1976-77 to Rs 658 crores during 1977-78. Some of the products exported were industrial boilers, electronic instruments, machine tools, pig iron, rail coaches, steel, equipment for power stations, steel structures, scooters etc. The total foreign exchange earnings by the public sector worked out to Rs 1,562 crores in 1977-78 as against Rs 2,246 crores in 1976-77.

Profit

The gross profit earned by the enterprises after providing for depreciation, but before interest and tax during 1977-78 worked out to Rs 947 crores. The profit after payment of interest but before tax for 1977-78 was Rs 236 crores. Eighty-one enterprises contributed profits totalling Rs 628 crores and 61 enterprises showed a loss of Rs 392 crores.

Generation of Resources

The total resources generated by the public sector including the contribution to the Public Exchequer in the form of dividends, interest on loans, income tax and excise duty during the period between 1974-75 and 1977-78 amounted to Rs 8,453 crores. During 1977-78 the enterprises had generated resources of Rs 731 crores.

Employment

The number of persons in the employment of the 153 enterprises was 16.38 lakhs in 1977-78 as against 15.75 lakhs in 1976-77. Salaries and wages paid to the employees totalled Rs 1,646 crores during 1977-78 as against Rs 1,408 crores in 1976-77.

(Rs. crores)

TABLE 18.2
SECTOR-WISE
DISTRIBUTION
OF INVESTMENT
IN PUBLIC SECTOR
UNDERTAKINGS

Category	At the end of 1976-77		At the end of 1977-78	
	Investment	Percentage of total investment	Investment	Percentage of total investment
A. Enterprises producing and selling goods:				
Steel	2,864.31	25.8	3,056.62	23.8
Minerals and metals—other than coal	704.25	6.4	943.23	7.3
Minerals and metals—coal	1,277.09	11.5	1,435.86	11.2
Petroleum	689.71	6.2	816.84	6.3
Chemicals and pharmaceuticals	2,076.22	18.7	2,528.87	19.7
Heavy engineering	803.34	7.3	826.65	6.4
Medium and light engineering	215.78	2.0	242.79	1.9
Transportation equipment	335.41	3.0	367.55	2.8
Consumer goods	178.25	1.6	344.40	2.7
Agro-based enterprises	11.49	0.1	14.01	0.1
B. Service enterprises :				
Trading and marketing services	527.73	4.8	565.09	4.4
Transportation services	933.29	8.4	1,079.59	8.4
Contracts and construction services	38.12	0.3	48.13	0.4
Industrial development and technical consultancy services	3.86	0.1	6.83	0.1
Development of small industries	46.26	0.4	33.77	0.3
Tourist services	20.12	0.2	20.92	0.2
Financial services	370.78	3.3	520.28	4.0
Total (A+B)	11,096.51	100.0	12,851.43	100.0

INDUSTRIAL PRODUCTION

Production of selected industries in different years since 1950-51 is given in table 18.4.

The index of industrial production (base : 1970=100) during 1979-80 declined by 2 points and recorded a fall of 1.4 per cent over 1978-79. The mining and quarrying sector showed an increase of 0.6 per cent and electricity generated by 2.1 per cent during 1979-80. The manufacturing sector showed a decline of 2.1 per cent. In this sector, 8 out of 18 industry groups showed an increase, notable among them are petroleum refinery products, textiles and paper products. However, there has been a decline in the output of food, manufacturing, rubber products and transport equipment.

The groupwise index numbers (1960=100) for 1951, 1961, 1966, 1971 and for 1977-78, 1978-79 and 1979-80 (1970=100) are given in table 18.5.

TABLE 18.3

TURNOVER OF
THE ENTERPRISES

(Rs. crores)

Category	1975-76	1976-77	1977-78
<i>A. Enterprises Producing and selling goods :</i>			
Steel	906	1,425	1,592
Minerals and metals:			
(a) Other than coal	176	212	258
(b) Coal	535	662	712
Petroleum	3,683	4,625	5,863
Chemicals and pharmaceuticals	474	562	642
Heavy engineering	567	720	719
Medium and light engineering	347	389	461
Transportation equipment	310	324	330
Consumer goods	64	74	81
Agro-based enterprises	27	28	23
Total	7,089	9,021	10,681
<i>B. Service Enterprises :</i>			
Trading and marketing services	3,841	4,527	5,707
Transportation services	556	706	796
Contracts and construction services	98	126	170
Industrial development and technical consultancy services	40	85	119
Small industries	27	25	17
Tourist services	18	24	29
Financial services	19	28	37
Total	4,599	5,521	6,875
Grand Total (A+B)	11,688	14,542	17,556

PRINCIPAL INDUSTRIES

COTTON
TEXTILES

The origin of the cotton textile industry the largest single industry in the country, dates back to 1818 when the first cotton mill was established at Fort Gloster near Calcutta. The grant of protection and the Swadeshi movement enabled the industry to make rapid strides. The number of mills increased to 389 in 1937 with 2,02,464 looms. At the end of 1977, there were 704 mills (412 spinning and 292 composite) with an installed capacity of 198.4 lakh spindles and 2.08 lakh looms. In 1947, cotton yarn production was 59.7 crore kg and piecegoods production 350.9 crore metres. The production of cotton yarn in 1977 was 84.6 crore kg and that of cotton cloth 322.4 crore metres. The decentralised sector of handlooms and powerlooms produced another 367.9 crore metres of cotton cloth.

Production of cotton yarn and cloth since 1950-51 is shown in table 18.4.

JUTE

The jute industry is one of the oldest in the country. As a major foreign exchange earner, it occupies an important place in the country's economy. The first power-driven jute mill was established at Rishra near Calcutta in 1859 and thereafter the industry made rapid progress. The partition of the country in 1947 deprived the industry of its vital raw material and reduced the number of mills to 106. Production in 1947-48 was only 16.5 lakh bales as against the pre-

PROGRESS OF INDUSTRIAL PRODUCTION (SELECTED INDUSTRIES)

INDUSTRY

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Industry (Unit)	1950-51	1960-61	1965-66	1970-71	1976-77	1977-78	1978-79	1979-80 ¹
1	2	3	4	5	6	7	8	9
I. Mining								
1. Coal (including lignite) . . . (lakh tonnes)	328	557	703	743	1,048	1,045	1,054	1,063
2. Iron ore (lakh tonnes) ² . . .	30	110	181	225	422	440	373	390
II. Metallurgical Industries								
3. Pig iron (lakh tonnes) . . .	16.9	43.1	70.9	69.9	100.6	95.1	94.9	86.2
4. Steel ingots (lakh tonnes) ⁹ . . .	14.7	34.2	65.3	61.4	86.6	84.3	81.5	80.3
5. Saleable steel (lakh tonnes) ¹⁰ . . .	10.4	23.9	45.1	44.8	70.6	68.9	65.9	60.4
6. Steel castings ('000 tonnes) . . .	—	34	57	62	63.2	69.7	75.4	74.2
7. Aluminium (virgin metal) (^{'000} tonnes)	4	18.3	62.1	166.8	208.7	178.5	213.7	191.9
8. Copper (virgin metal) . . . (^{'000} tonnes)	7.1	8.5	9.4	9.3	23.7	21.0	21.9	22.5
III. Mechanical Engineering Industries								
9. Machine tools (Rs. crores) . . .	0.3	7	22.4	43.0	116.3	107.6	132.8	163.3
10. Railway wagons (^{'000}) ³ . . .	2.9	11.9	33.5	11.1	12.0	12.3	11.6	12.1
11. Automobiles (^{'000} no.) ⁴ . . .	16.5	55	70.7	87.4	91.3	—	—	—
(i) Commercial vehicles ⁵ (^{'000} no.)	8.6	28.4	35.3	41.2	46.4	41.0	57.6	57.5
(ii) Passenger cars etc. . . (^{'000} no.)	7.9	26.6	35.4	46.2	36.5	34.2	33.5	33.0
12. Power-driven pumps (^{'000} no.)	35	109	224	259	309	255.3	378.0	347.0
13. Motor cycles and scooters . . . (^{'000} no.)	—	19.4	40.7	97.0	228.9	227.3	254.9	247.2

1	2	3	4	5	6	7	8	9
14. Diesel engines (stationary) (^{'000} no.)	5.5	44.7	93.1	65.7	111.6	133.9	143.5	142.3
15. Bicycles (^{'000} no.)	99	1,071	1,574	2,042	2,677	3,183	3,743	3,837
16. Sewing machines (^{'000} no.)	33	303	430	235	385	367	206	385
IV. Electrical Engineering Industries								
17. Power transformers (lakh Kva)	1.8	41.1	44.6	80.9	151	161.3	205.0	187.0
18. Electric motors (^{'000} hp)	99	728	1,753	2,721	3,670	3,960	3,980	3,780
19. Electric fans (lakhs no.)	2	10.6	13.6	17.2	26.3	34.0	31.0	38.5
20. Electric lamps (lakh no.)	140	435	721	1,193	1,619	1,685	1,804	2,042
21. Radio receivers (^{'000})	54	282	606	1,794	1,685	1,875	2,001	2,059
22. Electric cables & wires :								
(i) Aluminium conductors	1.7	23.6	40.6	64.2	84.2	57.6	67.5	69.1
(ii) Bare copper conductors	5	10.1	3.1	0.7	1.4	—	—	—
(^{'000} tonnes)								
(^{'000} tonnes)								
V. Chemicals & Allied Industries								
23. Nitrogenous fertilizers (^{'000} tonnes of N)	9	98	233	830	1,900	2,023	2,170	2,226
24. Phosphatic fertilizers (^{'000} tonnes of P ₂ O ₅)	9	52	111	229	480	647	771	757
25. Sulphuric acid (^{'000} tonnes)	101	368	662	1,053	1,802	—	—	—
26. Soda ash (^{'000} tonnes)	45	152	331	449	568	573	815	544
27. Caustic soda (^{'000} tonnes)	12	101	218	371	506	524	562	545
28. Paper & paper board (^{'000} tonnes)	116	350	558	755	899	961	1,008	1,021
29. Rubber Tyres :								
(i) Auto tyres (lakh no.)	8.7	14.4	23.1	37.9	62.5	62.0	71.0	71.0
(ii) Bicycle tyres (lakh no.)	33	111.5	184.6	192.0	299	284	322	266
30. Cement (lakh tonnes)	27.3	79.7	108.2	144.0	188	193	193	175
31. Refractories (^{'000} tonnes)	237	567	695	683	788	805	812	N.A.
32. Petroleum products refined (lakh tonnes)	2	58	94	171	216	232	242	255

INDUSTRY

VI. Textile Industries

33. Jute textiles ('000 tonnes)	837	1,097	1,302	958	1,186	1,179	1,046	1,355
34. Cotton yarn (crore kg)	53.4	80.1	90.7	92.9	112.5	114.9	127.1	118
35. Cotton cloth (crore metres)	421.5	637.8	744.0	759.6	810.5	782.5	865.0	837.0
(i) Mill sector (crore metres)	340.1	463.9	440.1	405.5	416.1	413.5	432.8	406.8
(ii) Decentralised sector (crore metres)	81.4	208.9	303.9	354.1	394.4	369.0	432.2	430.2
36. Rayon yarn ('000 tonnes) ⁶	2.1	43.8	75.6	98.1	127.3	—	—	—
37. Artsilk fabrics (crore metres)	28.7	54.4	87.8	94.7	120.0	102.8	—	—
38. Woollen manufactures—								
(i) Woollen & worsted yarn (lakh kg.)	87	130	170	197	465	4597	434	417
(ii) Woollen & worsted fabrics (lakh metres)	61	133	92	143	236	224	191	167
VII. Food Industries								
39. Sugar (Oct.—Sept.) (lakh tonnes)	11.3	30.3	35.1	37.4	48.4	64.6	58.43	38.95
40. Tea (crore kg)	27.7	32.2	37.6	42.1	51.9	55.7	57.6	53.0
41. Coffee ('000 tonnes)	21	54.1	62.1	72.7	102.5	—	—	—
42. Vanaspati ('000 tonnes)	170	340	401	558	540	572	678	626
VIII. Electricity generated (crore kwh) ⁸	530	1,690	3,300	5,580	8,920	9,220	10,333	10,541

¹Provisional.²Excludes output in Goa up to 1969-70.³Excludes output in railway workshops.⁴Includes landrovers, jeeps, utilities, station wagons and vans.⁵Includes buses, trucks, tempos and three and four wheelers.⁶Includes viscose yarn, staple fibre and acetate yarns.⁷Figures are for calendar year from 1977-78.⁸Relates to public utilities only.⁹In terms of steel up to 1970-71.¹⁰In terms of finished steel up to 1970-71.

TABLE 18.5
INDEX OF INDUSTRIAL PRODUCTION

(Base : 1960=100)		(Base : 1970=100) ¹					Percentage change in 1979-80 over 1978-79
1951	1961	1966	1971	Industry Group	1977-78	1978-79	1979-80
54.8	109.2	153.2	186.1	General Index	139.6	150.2	148.1
66.6	105.4	136.1	153.4	Mining and quarrying	141.3	144.2	145.0
37.7	116.3	207.8	358.5	Electricity generated	167.6	187.9	191.8
—	—	—	—	Manufacturing	136.2	146.6	143.5
66.9	108.6	130.5	157.6	Food manufacturing	124.1	140.2	123.5
58.0	107.0	158.9	182.5	Beverage industries }	362.9	379.8	266.1
				Tobacco industries }	108.2	118.5	122.1
79.7	102.8	108.9	106.0	Textiles	104.7	109.7	112.2
n.a.	104.8	106.5	105.2	Cotton textiles	—	—	—
n.a.	89.1	100.4	94.7	Jute textiles	—	—	—
63.5	115.4	184.2	168.1	Footwear (Leather)	72.9	76.1	74.1
43.5	95.5	205.1	224.1	Wood and cork	129.9	122.9	142.7
38.5	105.8	160.0	225.7	Paper products	115.2	121.7	124.0
72.4	100.9	120.9	55.3	Leather and fur products	92.3	74.8	81.2
56.1	112.9	160.2	241.8	Rubber products	129.9	146.0	141.3
42.4	113.4	168.4	252.7	Chemicals and chemical products	172.3	186.6	184.5
11.0	106.0	195.9	316.0	Petroleum refinery products	137.0	141.0	150.4
39.0	106.9	148.1	207.6	Non-metallic mineral products	148.7	153.9	156.4
46.5	118.7	191.5	208.6	Basic metal industries	143.1	144.1	138.2
30.7	112.4	208.4	234.4	Metal products	140.9	157.9	163.1
22.2	121.2	295.6	373.2	Machinery except electrical machinery	181.5	209.1	203.4
26.3	110.0	225.1	404.8	Electrical machinery	141.0	161.6	161.2
19.6	116.7	156.0	122.1	Transport equipment	123.0	127.8	124.7
n.a.	102.7	132.2	114.0	Miscellaneous manufacturing industries	111.3	125.1	121.5

¹Figures for recent years in the table have been computed on new base : 1970=100. The general index of industrial production in 1970 on base 1960=100 stood at 184.3.

²Provisional. n.a.—Not available.

partition output of 65.70 lakh bales. In 1961-62, production of raw jute reached a record level of 80 lakh bales but came down to 58 lakh bales in 1974-75 and 59 lakh bales in 1975-76 due to unfavourable weather conditions. During 1976-77, the production of raw jute picked up and stood at 68 lakh bales. Production of jute goods during 1976-77 stood at 11.77 lakh tonnes. The value of exports, however, during 1977-78 was Rs 231 crores as against Rs 199.24 crores during the previous year. Table 18.4 shows the progress of the jute industry since 1950-51.

The Jute Corporation of India was set up in 1971 to manage the export, import and internal marketing of raw jute. During 1977-78, it was able to stabilise the prices of raw jute particularly in some areas of Assam and Tripura.

SUGAR

The sugar industry ranks second amongst the major agro-industries. The number of factories went up from 138 in 1950-51 to 307 in 1979-80. Production increased from 11.34 lakh tonnes in 1950-51 to 64.62 lakh tonnes in 1977-78 but, thereafter, there was a decline in production mainly due to shrinkage in cane area. It came down to 58.44 lakh tonnes in 1978-79 and further declined to 38.59 lakh tonnes in 1979-80. Sugar exports during 1979-80 were 2.90 lakh tonnes as against 8.63 lakh tonnes in 1978-79. A notable feature of the development of the sugar industry after independence was its remarkable expansion in the cooperative sector. Out of 307 factories working in 1979-80, 140 were in the cooperative sector which produced about 52 per cent of the total sugar output.

After a brief period of complete decontrol of sugar from 16 August 1978 to 16 December 1979, government re-introduced the policy of partial control on sugar with a dual pricing system from 17 December 1979. Under this policy, 65 per cent of the total production of the factories is procured by government as levy at controlled prices and the balance 35 per cent is being allowed to be sold in the open market without any price control.

The progress of the industry since 1950-51 is shown in table 18.6.

TABLE 18.6
GROWTH OF
SUGAR INDUSTRY

	1950-51	1960-61	1965-66	1970-71	1975-76	1977-78	1978-79	1979-80
Number of mills	138	174	200	215	252	288	299	307
Production ('000 tonnes) ¹	1,134	3,021	3,541	3,740	4,245	6,462	5,844	3,859

¹Upto 1966-67 the Sugar year was November-October but later it was changed to October-September.

VANASPATI

The vanaspati industry came into existence in the beginning of 1930 with very limited production. It continued to make rapid progress up to 1971-72 when it touched the peak level of production at 5.94 lakh tonnes. However, the production of vanaspati declined from 1972-73 to 1974-75 mainly due to fall in production of edible oils. In 1975-76 production picked up appreciably touching the level of 5 lakh tonnes. The number of vanaspati units rose from 48 in 1950-51 to 86 in 1980-81. Vanaspati production in 1978-79 was 6.78 lakh tonnes.

Manufacture of cement was first started in Madras in 1904. A real

beginning on a large scale, however, was made in 1912-13 when three companies were formed. At present, there are 60 cement factories, 14 in the public sector, with a total installed capacity of about 2.58 crores tonnes per annum. Total production of cement (all varieties) in 1979-80 was 1.76 crore tonnes as compared to 29 lakh tonnes in 1950-51.

The Cement Corporation of India, New Delhi, is the only public sector undertaking in the central sector, so far as the cement industry is concerned. It has six factories, one each in Karnataka, Himachal Pradesh, Assam and three in Madhya Pradesh. In order to increase the availability of cement, government has decided to discontinue the supply of cement outside the country except to Nepal and Bhutan. During 1979-80, a total quantity of 15.47 lakh tonnes of cement was imported.

The growth of the industry is traced in table 18.4.

Asbestos Cement The installed capacity of asbestos cement products is 6.77 lakh tonnes spread over 12 units. Production in 1980 was estimated to be 6.50 lakh tonnes as compared to 6.15 lakh tonnes in 1979.

PAPER AND PAPER BOARD Production of machine-made paper in India dates back to 1870, when the Bally Mills was established near Calcutta. Between 1939 and 1945 the number of mills increased to 15 and production reached 1,03,884 tonnes (1944). Rapid progress has been made since 1950. There are at present 121 paper mills with a total capacity of 15.38 lakh tonnes per annum. Production in 1979 was 10.47 lakh tonnes as against 1.09 lakh tonnes in 1951. The progress of the industry is shown in table 18.4.

The Hindustan Paper Corporation Ltd., New Delhi, a public sector undertaking, was set up in 1970 to establish pulp and paper projects in the country. The Corporation has drawn up plans to set up three pulp and paper projects and one newsprint project. The Nagaland pulp and paper project with a capacity of 33,000 tonnes per annum of pulp and writing and printing paper is expected to go into production in 1981. The other two units, namely, the Nowgong pulp and paper project and the Cachar pulp and paper project, when set up will have a capacity of one lakh tonnes each of paper and pulp per annum. The Kerala newsprint project of the Corporation on which work was started in 1975 at Velloor will have an installed capacity of 80,000 tonnes per annum of newsprint. It is likely to be completed by 1981.

Newsprint The National Newsprint and Paper Mills Ltd., Neeranagar in Madhya Pradesh, the only newsprint mill in the country, went into production in 1955. The mill, which is in the public sector, has an installed capacity of 60,000 tonnes per annum. The production in 1979 was about 48,374 tonnes.

PHOTO PAPER AND FILMS The Hindustan Photo Films Manufacturing Co. Ltd., was set up at Ootacamund in 1960 by the Government of India for the manufacturing cine, X-ray, roll and graphic art films and photo paper. The project has an installed capacity of 61.5 lakh sq metres. During 1979-80, it produced 101.47 lakh sq metres of various kinds of photo sensitized material valued at Rs 48.57 crores as against 94.16 lakh sq metres valued at Rs 40.53 crores in 1978-79. The company made a profit of Rs 266.6 lakhs in 1979-80.

IRON AND
STEEL

The earliest successful attempt to manufacture iron and steel by modern methods was made in the country in 1874. But the first efforts at large-scale production got under way when the Tata Iron and Steel Company (TISCO) was set up at Jamshedpur in 1907. This was followed by the establishment of the Indian Iron and Steel Company (IISCO) at Burnpur in 1919. The first unit in the public sector, now known as the Visvesvaraya Iron and Steel Works Ltd., started functioning at Bhadravati in 1923. After Independence, the development of the steel industry was considered during the First Plan but it was only in the Second Plan (1956-61) that work started to set up three integrated steel projects each with 10 lakh ingot tonnes capacity at Bhilai, Durgapur and Rourkela. An expansion programme to double the capacity of the two private sector steel plants, namely, TISCO and IISCO, to 20 lakh tonnes and 10 lakh tonnes respectively was also taken in hand. The three plants in the public sector came into operation in stages between 1956 and 1962 and the expansion of the private sector factories was completed in 1959. In the Third Plan, the emphasis was on expansion of the three public sector steel plants and the setting up of a new steel works at Bokaro. The Fourth Plan steel programme was based on the maximum utilization of existing steel capacity and preparation of plans to set up three new steel plants at Salem (Tamil Nadu), Vijayanagar (Karnataka) and Vishakhapatnam (Andhra Pradesh) to create additional steel capacity to meet the requirements in the Fifth Plan.

However, it was only by the close of the Fifth Plan which terminated a year ahead of the schedule on 31 March 1978 that there was addition to steel making capacity of the order of 17 lakh tonnes with the commissioning of the Bokaro Steel Plant on 26 February 1978. The total installed ingot steel capacity which stood at 89 lakh tonnes as on 31 March 1974 had increased to 116 lakh tonnes by 31 March 1980.

Earlier, the management of IISCO was taken over by the government on 14 July 1972 and the ownership of the company acquired on the 17 July 1976 with a view to improve its working.

There are at present six integrated steel plants in the country, five in the public sector and one in the private sector. Table 18.7 shows the capacity of the six integrated steel plants.

TABLE 18.7
RATED CAPACITY
OF STEEL PLANTS

Plant	('000 tonnes)	
	Rated capacity	
	Ingot steel	Saleable steel
<i>Public Sector</i>		
Bhilai	2,500	1,965
Durgapur	1,600	1,239
Rourkela	1,800	1,225
Bokaro	2,500	2,000
IISCO	1,000	800
<i>Private Sector</i>		
TISCO	2,000	1,500
Total :	11,400	8,729

Bhilai and Bokaro Steel Plants are presently under expansion to a capacity of 40 lakh ingot tonnes each. The expansion of Bhilai Steel Plant is likely to be completed by the middle of 1983 and of

Bokaro Steel Plant by the end of 1983. Proposals are presently under consideration to further increase the capacity of these plants by introduction of technological improvements and provision of balancing and other facilities with minimum capital outlay. Government has recently sanctioned the installation of a plant at Rourkela to produce 37,500 tonnes of CRGO and 36,000 tonnes of CRNO sheets per annum to meet the requirements of electrical industry. Besides the mild steel plants, there is an alloy steels plant at Durgapur in the public sector with an annual capacity of 1,00,000 tonnes of ingots. The plant is now being expanded to a capacity of 1,60,000 tonnes. The Visvesvaraya Iron and Steel Limited (VISL) at Bhadravati with a capacity of 72,000 tonnes of alloy and special steels and 48,000 of mild steel ingot is jointly owned by the central government and the state government of Karnataka. A forge plant has been installed and it would increase capacity for alloy and special steels at VISL by 5,000 tonnes.

Mini Steel Plants

To encourage the augmentation of steel production by the private sector, a number of small or medium sized electric furnaces grew up in the past. They utilize scrap sponge iron as raw material.

The mini-steel plants grew fast and large in number. Owing to a variety of factors they got into a languishing state with their production falling and consequently losses in their operation. Government took a number of special measures to improve their viability.

At present there are 147 licensed electric arc furnace units with a total capacity of 33.2 lakh tonnes per year. Their production during 1978-79 was nearly 17 lakh tonnes. The mini-steel plants have now become a healthy partner of the integrated steel plants in increasing the availability of steel. Their location at convenient points helps to meet steel requirements of far-flung areas, thus promoting a balanced regional growth.

Sponge Iron

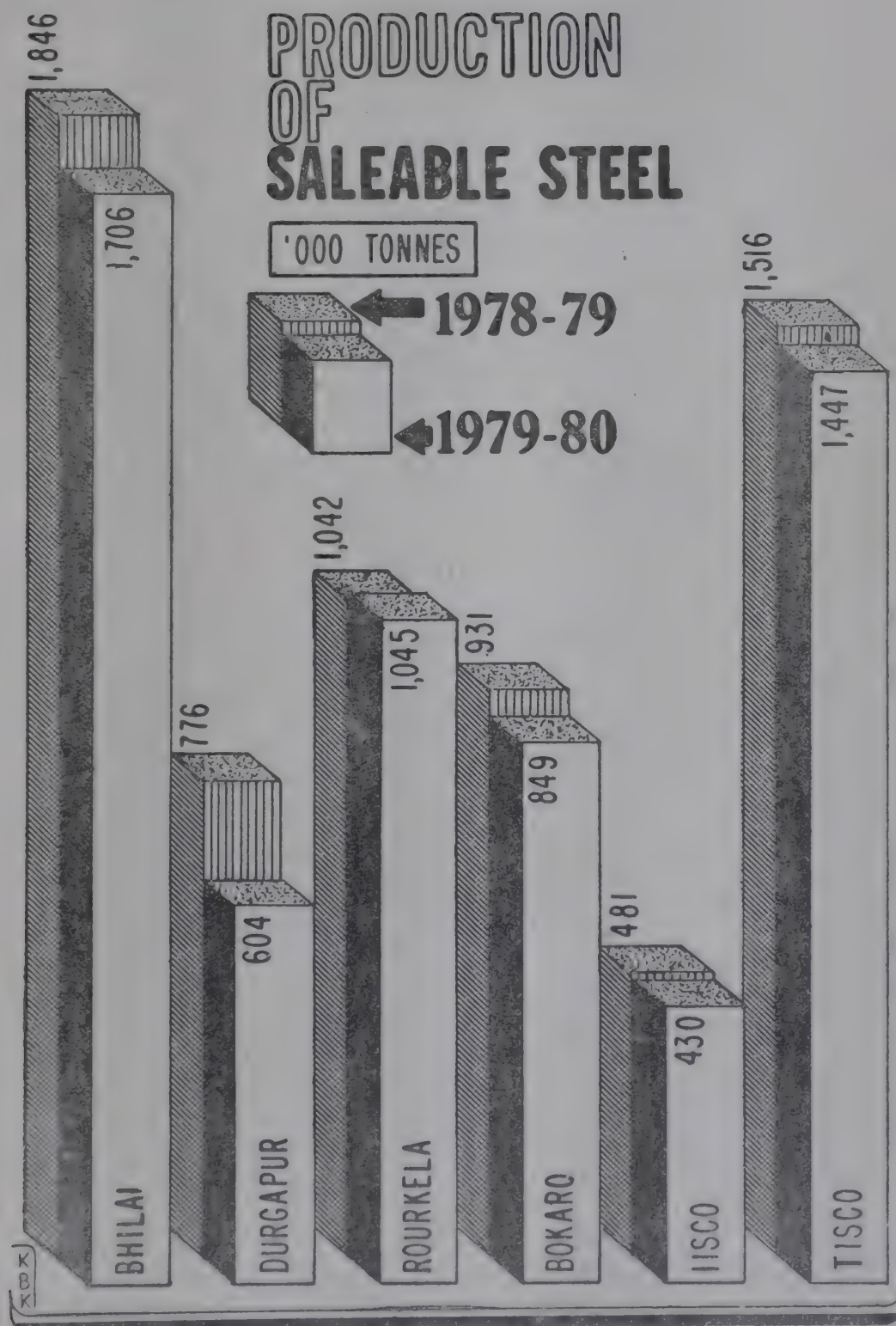
In view of the importance of utilizing our large non-coking coal reserves for steel making and for conserving coking coal resources, a special project has been taken up at Kothagudem in Andhra Pradesh. The project envisages production of sponge iron through direct reduction process using non-coking coal as solid reductant. This is a UNDP assisted project and is based on imported technology with a capacity of 30,000 tonnes a year. It was formally inaugurated on 31 December 1980. M/s of Industrial Investment and Promotion Corporation of Orissa Limited is implementing a capacity of 1,50,000 tonnes based on the liquid fuel.

Successful production of sponge iron would promote production of steel including alloy steel in electric furnace units and reduce the consumption of scrap and metallurgical coke, then help in the conservation of coking coal.

Prior to 1973, of the four public sector steel plants, the plants at Bhilai, Durgapur and Rourkela were owned and managed by the Hindustan Steel Limited (HSL) and the plant at Bokaro by Bokaro Steel Limited (BSL). HSL and BSL became the wholly owned subsidiaries of SAIL in January 1973 when SAIL was incorporated as a holding company for steel and associated input industries.

Restructuring of SAIL

The organisation, structure and the functioning of the public sector steel plants and SAIL was reviewed by the government in October 1977.



Since all major policy issues and development plans of the steel industry in the public sector were approved by government and all funds for capital schemes were provided by it through budgetary support, the interposition of a holding company between the Ministry of Steel and the operating units did not serve any useful purpose, it was felt. The concept of bringing these plants under the overall responsibility of providing direction, supervision and auxilliary services to the operating units was thus mooted.

The public sector steel industry was accordingly restructured through the Public Sector Iron and Steel Companies (Restructuring) and Miscellaneous Provisions Act, 1978 effective from 1 May 1978. SAIL thus emerged as the main integrated steel company with five public sector steel plants, including the Indian Iron and Steel Company (IISCO) as its constituent unit. This is intended to ensure better management and improved efficiency in their working. Its authorised capital was Rs 2,500 crores and paid up capital Rs 2,434.13 crores as on 31 March 1980 (excluding share money pending allotment amounting to Rs 56.62 crores). The authorised capital for 80-81 was Rs 3,000 crores.

The production of ingot steel, saleable steel and pig iron for sale from the integrated steel plants in 1978-79 and 1979-80. is shown in table 18.8.

TABLE 18.8
PRODUCTION
OF IRON AND
STEEL

Plant	('000 tonnes)					
	Ingot Steel		Saleable Steel		Pig Iron for Sale	
	1978-79	1979-80	1978-79	1979-80	1978-79	1979-80
Bhilai . .	2,200	2,108	1,846	1,706	606	519
Durgapur . .	945	882	776	604	146	121
Rourkela . .	1,319	1,268	1,042	1,045	4	4
Bokaro . .	1,195	1,426	931	849	608	280
IISCO . .	628	565	481	430	123	52
TISCO . .	1,866	1,779	1,516	1,447	—	—
Total . .	8,153	8,028	6,592	6,039 ¹	1,487	1,976

¹Excluding transfer of HR Coils from Bokaro to Rourkela.

Salem Steel
Project

The detailed project report of Salem plant envisaging the production of 2,20,000 tonnes of sheet and strip products, comprising 70,000 tonnes of stainless steel, 75,000 tonnes of electrical steel and 75,000 tonnes of other special steel was approved by government in March 1977. The implementation of the first stage of the project planned to produce 32,000 tonnes of cold rolled stainless steel sheets and strips is in progress. It is expected to be completed by the end of 1981.

Visakhapatnam
Steel Project

Government sanctioned in June 1979, the setting up of about 34 lakh tonne capacity integrated steel plant at Visakhapatnam in two overlapping stages at an estimated cost of Rs 2,256 crores including a foreign exchange component of Rs 500.20 crores. The production capacity envisaged for the first stage is 7.10 lakh tonnes of light medium merchant mill products, 3.05 lakh tonnes of saleable billets and 5.12 lakh tonnes of saleable pig iron. The first stage is scheduled to be completed in four years. The second stage will be taken up on continuous basis to be completed in two years of commissioning of the first stage. The Soviet Government has extended technical and financial assistance

in the setting up of the plant. The detailed project report prepared earlier by the Indian consultants is currently being revised jointly by Soviet and Indian consultants with a view to incorporate the latest technology. The report was submitted on 30 November 1980. In the meantime, the preparatory work at the site has been taken up.

Vijayanagar Steel Project

The detailed project report on Vijayanagar plant as updated by the consultants is under examination. In the meantime, some of the preliminary works at the site are in progress.

It has been decided to set up a shore based steel plant at Paradeep.

MECON

To provide consultancy and engineering services in the field of iron and steel, the Central Engineering and Design Bureau of Hindustan Steel Limited, was incorporated in 1973 as an independent company called the Metallurgical and Engineering Consultants (India) Limited (MECON) and was a subsidiary of Steel Authority of India Limited.

With the passing of the Public Sector Iron and Steel Companies (Restructuring) and Miscellaneous Provisions Act, 1978, MECON was delinked from SAIL and placed directly under the control of the Ministry of Steel and Mines with effect from 1 May, 1978. It is one of the leading consultancy and engineering organizations in India, rendering consultancy and detailed engineering services for several major projects in India as well as abroad. MECON had successfully completed several consultancy assignments in Dubai, Abu Dabi, Liberia, Vietnam, Iraq and Bangladesh. It is executing several assignments in Nigeria.

The Indian steel industry has acquired a high degree of technological self-reliance. Considerable expertise in planning, detailed engineering, machine making, erection etc., has been built up in institutions like MECON and Hindustan Steel Company Ltd. India now possesses capability to plan and execute the expansion of its steel making capacity. A research and development unit has been set up under SAIL and a research and development plan for the steel industry has been drawn up in consultation with the Planning Commission and Department of Science and Technology. This is expected to help the steel industry to reduce production cost and enhance the value of products by process improvement and/or introduction of new technologies, thereby helping it to retain its competitiveness with other countries.

ENGINEERING INDUSTRY

The engineering industries were started only after India attained Independence. But, today, India has not only become self-reliant in a variety of engineering equipment but also exporting engineering goods. The country is currently producing power generation, transmission and distribution equipment, plant and machinery for steel, chemical and fertilizer plants, electrical and construction machinery, machine tools, railway rolling stock, commercial vehicles, earth-moving equipment, agricultural equipment and a large number of other items (see Table 18.4).

Export of Engi- neering Goods

In 1978-79, the engineering industries produced goods worth over Rs 4,300 crores. The progress made over the years is remarkable as the output from the light and medium industries in 1950-51 was worth only Rs 50 crores. Export of engineering goods in 1978-79 was Rs 685 crores as against only Rs 6 crores in 1950-51.

Heavy Engineering, Heavy Mechanical and Industrial Machinery There are a large number of units in the public and private sectors which are manufacturing steel plant equipment.

The major unit in public sector manufacturing steel plant equipment, namely, the Heavy Engineering Corporation Ltd., Ranchi was incorporated in 1958. It has three units: Heavy Machine Building Plant, Foundry Forge Plant and Heavy Machine Tools Plant. The value of production of the three units during 1977-78 was Rs 39.44 crores as against Rs 86.13 crores in 1976-77.

The Triveni Structurals Ltd., was set up at Naini, Allahabad, in 1965 to promote designing and manufacturing of sophisticated steel structures. The value of production during 1977-78 was Rs 9.87 crores as against Rs 9.05 crores in 1976-77.

The Tungabhadra Steel Products Ltd, Tungabhadra dam Karnataka, manufactures structurals, transmission towers and penstock pipes. The value of production during 1977-78 was Rs 5.59 crores.

The Bharat Heavy Plates and Vessels Ltd., Vishakhapatnam, was set up in 1966 for manufacturing a range fabricating equipment required by the fertilizer and other processing industries, petroleum petro-chemicals and other heavy chemicals and allied industries. The value of production during 1979-80 was Rs 13.31 crores.

The Jessop and Co. Ltd., and the Richardson & Cruddas Ltd., both public sector undertakings, produced equipment worth Rs 43.39 crores and Rs 10.13 crores respectively during 1977-78.

Heavy mechanical industries produce, among other things, cranes, steel structurals, transmission towers, and conveyors. Production of cranes during 1977-78 was about 19,100 tonnes.

The coal mining machinery industry is now in a position to meet practically the entire requirements of the industry. A wide variety of articles like coal cutters, loaders, haulages, winders, coal combines shuttle cars and mine locomotives are being manufactured by the public sector unit, the Mining and Allied Machinery Corporation Ltd. (MAMC), at Durgapur, and a number of private sector units. The value of production during 1979-80 was Rs 31 crores.

The estimated value of production of some selected industrial machinery for 1977-78 was : chemical and pharmaceutical machinery Rs 69.54 crores, sugar mill machinery Rs 51.32 crores, cement machinery Rs 22.61 crores, printing machinery Rs 3.29 crores and metallurgical machinery Rs 11.06 crores.

Light Mechanical Industries Some of the important products of the light mechanical industries are bicycles and bicycle parts, balls and roller bearing, typewriters, time-pieces and wrist watches, data processing machines, agricultural implements and light machinery.

Machine Tools One hundred and eighteen major units produced machine tools valued at Rs 182.87 crores during 1979-80 and machine tools worth Rs 14.3 crores were exported during 1978-79.

Some of the important public sector undertakings manufacturing machine tools are described below :

The Hindustan Machine Tools Ltd., Bangalore is a multi-unit company. It has units at Bangalore, Pinjore (Haryana), Kalamassery (Kerala), Hyderabad and Srinagar. The company has watch factories at Bangalore and Srinagar. Hyderabad unit has started manufacture of lamps and lamp components.

The Central Machine Tools Institute, Bangalore, which went into production in 1965, is the primary research institute in the field of machine tools in the country. Its other functions include designing, standardisation, training and documentation.

The Heavy Machine Tools Plant at the Heavy Engineering Corporation produced machine tools worth Rs 1.92 crores during 1977-78.

Light Electrical Industries

The production of GLS lamps was 2,065 lakh numbers in 1979 as against 1,600 lakhs in 1977. Flourescent tubes production in 1979 was about 245 lakh numbers as against 176.7 lakhs in 1977.

Heavy Electrical Industries

Apart from Bharat Heavy Electricals Ltd., (BHEL) and some other public sector undertakings under the state governments, there are several large private sector units which are producing a large number of items for the heavy electrical industry. BHEL, which is a central public sector undertaking, was incorporated in 1964, consists of six units, namely, Bhopal, Tiruchirapalli, Hyderabad, Hardwar, Jammu and Bangalore.

In 1979-80, it achieved production of Rs 708 crores as against Rs 443 crores in 1976-77. BHEL is exporting power station equipment to Malaysia and to a number of countries in the West Asia and Africa. During 1978-79, it exported power station equipment worth Rs 120.3 crores.

The Hindustan Cables Ltd., Rupnarainpur, West Bengal, began production in 1954. The factory, which is in the public sector, produced 10.85 lakh conductor km of dry core cables, 3,150 tube km of coaxial cables and 76,006 conductor km of plastic wires and cables during 1976-77.

The company's second unit at Hyderabad commenced production in April 1974. It produced 7.68 lakh conductor km of dry core cables during 1976-77.

Instruments

Thirteen units produce industrial process control instruments. The value of production increased from Rs 25.43 crores in 1979 to Rs 33.25 crores in 1980. Production of X-ray and electromedical equipment increased from Rs 7.68 crores in 1979 to Rs 10.20 crores in 1980. A brief description of the major public sector undertakings manufacturing various types of instruments is given below :

Instrumentation Ltd., Kota, incorporated in 1964, manufactures various industrial process control instruments. It went into commercial production in 1968 and achieved a turnover of Rs 17.40 crores between April and October 1980.

The National Instruments Ltd., Calcutta, manufactures various types of surveying meteorological scientific and industry instruments. Its production during 1978-79 and 1979-80 was Rs 2.40 and Rs 1.05 crores respectively. Manufacture of cameras and scale reading devices commenced during 1977-78 by the company.

Automobiles and Tractors

In 1977-78, production of commercial vehicles including jeeps was 50,180. The others were : passenger cars 34,230; scooters 1,59,030; motor-cycles 68,360. Scooters India Ltd., Lucknow, a public sector undertaking with a capacity of one lakh scooters per annum went into production in 1974-75. It produced 16,717 scooters during 1977-78.

There are 11 units manufacturing tractors. The total output during 1977-78 was 40,920 as against 33,150 in 1976-77.

DRUGS AND PHARMACEUTICALS AND CHEMICALS

Before 1947, most of the bulk drugs were imported and only processing and formulations were done in India. Since then, most of the bulk drugs are manufactured indigenously and the drugs industry has attained the status of a major industry. To reduce the import of bulk drugs and to have an orderly development of the industry, two public sector projects have been set up. A brief description of the undertakings is given below :

Indian Drugs and Pharmaceuticals Ltd.

The Indian Drugs and Pharmaceuticals Ltd., New Delhi, was set up in 1961 to manufacture a variety of antibiotics and wide range of drugs from the very basic stages. It comprises the following five units (i) *Antibiotics Plant, Rishikesh* : The plant produces, among others, penicillin, streptomycin, tetracycline and nystatin. Production was 1,00,663 milliards, and 126 tonnes of various antibiotics during 1979-80. (ii) *Synthetic Drugs Plant, Hyderabad* : It produces a wide range of sulphas, vitamins, analgesics and anti-TB drugs. Production in 1979-80 was 1,626 tonnes as against 1,192 tonnes in the preceding year. (iii) *Surgical Instruments Plant, Madras* : The plant manufactures different types of surgical instruments. The value of production was Rs 2.48 crores during 1979-80. (iv) *Formulation Plant, Gurgaon* : The plant produces a wide range of formulations required in the country. The value of production during 1979-80 was Rs 2.53 crores. (v) *Nicotinamide Plant, Muzafarpur* : The plant produces nicotinamide and other chemicals. The production during 1979-80 was of the order of 461.40 tonnes.

The expansion of the Synthetic Drug, Plant, Hyderabad and the Antibiotics Plant, Rishikesh are under implementation.

Three joint ventures, namely, two formulation units, one each in Rajasthan and Uttar Pradesh and the third in Punjab to produce glucose, starch etc., have been established. The formulation units have been commissioned while the plant in Punjab is under implementation.

Bengal Chemicals and Pharmaceutical Works (BCPW)

The company with four units at Maniktala, Panihati (West Bengal), Kanpur and Bombay taken over under the provision of Industries (Development and Regulation) Act 1951 on 15 December 1977, was nationalised on 15 December 1980. The company produces bulk drugs, formulations chemicals and home products. The total sales during 1979-80 were about Rs 7.99 crores.

Hindustan Antibiotics Ltd.

The Hindustan Antibiotics Ltd., Pune, was incorporated in 1954. It undertakes manufacture of penicillin, streptomycin and vitamin C. The production of penicillin and streptomycin was 110.62 mmu and 91.03 tonnes during 1979-80. The company is also establishing three joint formulation units in Maharashtra, Karnataka and Goa.

Smith Stanistreet and Pharmaceutical Ltd.

The Company produces only drug formulations at present. The total sales during 1978-79 were of the order of Rs 531.00 lakhs as against Rs 431.72 lakhs during 1977-78. Government has approved the expansion of the formulation capacity involving a capital outlay of Rs 75.58 lakhs and the implementation is in progress.

Hindustan Organic Chemicals Ltd.

The Hindustan Organic Chemicals Ltd., Rasayani (Maharashtra) incorporated in 1960, manufactures various organic chemicals and intermediates required by drugs, dyestuffs and plastic industries. At

present; it manufactures 13 chemicals groups. Their production during 1979-80 was 77,560 tonnes as against 72,417 tonnes during 1978-79.

Hindustan Insecticides Ltd.

The Hindustan Insecticides Ltd., New Delhi, incorporated in 1954, is a major producer of insecticides like DDT. It has two factories at Delhi and Alwaye (Kerala). Production of DDT (Technical) at Delhi and Alwaye factories during 1979-80 was 3,372 and 1,362 tonnes respectively. The Alwaye unit also produces BHC and its production during 1979-80 was 2,442 tonnes. The Company is setting up its third unit at Rasayani in Maharashtra for manufacture of DDT and malathion and their formulations.

PETRO-CHEMICALS

Two petro-chemical complexes of the Union Carbide India Ltd., and National Organic Chemicals Ltd., (private sector undertakings) started production in 1967 and 1968 respectively. To step up establishment of petro-chemical complexes around the public sector refineries, the Indian Petro-chemical Corporation Ltd., (IPCL) was set up at Jawaharnagar in Gujarat in 1969 as a wholly owned company of the Government of India. The DMT unit of its aromatics plant produced 27,939 tonnes of DMT in 1979-80. The xylene plant, which went into production in 1973, produced 18,544 tonnes of orthoxylene 3,472 tonnes of xylenes and 14,589 tonnes of para-xylenes during 1979-80.

A separate company, Bongaigaon Refinery and Petro-chemicals Ltd., registered in 1974 is to implement the refinery and petrochemical complex at Bongaigaon.

FERTILIZERS

The fertilizer industry, in view of its basic importance to the development of agriculture, has been placed in the core sector for industrial licencing purposes. At the time of independence, the industry consisted of only a few plants manufacturing single super phosphate and ammonium sulphate as a by-product from smelter gases. The first large sized plant for the manufacture of nitrogenous fertilizers was set up at Alwaye in Kerala in 1947. Subsequently another large sized plant was set up at Sindri in public sector which went into production in October 1951. The industry has since made rapid strides over the years; from a capacity for manufacture of 85,000 tonnes of nitrogen and 63.5 thousand tonnes of P_2O_5 at the beginning of the First Plan (1951-52), the capacity rose to 43.47 lakh tonnes of nitrogen and 12.82 lakh tonnes of P_2O_5 at the end of 1980.

A large scale programme for augmentation of fertilizer capacity comprising of 9 large sized fertilizer projects and a few single sulphur phosphate schemes is presently under implementation. These projects, when completed would add an additional capacity of 20.80 lakh tonnes of nitrogen and 2.48 lakh tonnes of phosphate, raising the total capacity to 68.55 lakh tonnes of nitrogen and 15.30 lakh tonnes of P_2O_5 .

The fertilizer sector being a core sector, the public, private as well as co-operative sectors have been assigned a definite role in its development. There are at present, 32 large sized nitrogenous complex fertilizer units, besides 35 single super phosphate units. Of the 32 large units, 22 are in the public sector, 9 in the private and one in the co-operative sector.

Production of fertilizer in 1979-80 was 22.26 lakh tonnes of nitrogen and 7.7 lakh tonnes of P_2O_5 as compared to 16,000 tonnes of nitrogen and 11,000 tonnes of P_2O_5 in 1951-52.

The Fertilizer Corporation of India and National Fertilizer Limited, two public sector undertakings, have been re-organised into four companies on the basis of feed-stock and geographical considerations. The two new public sector undertakings, namely, Rashtriya Chemicals and Fertilizers and Hindustan Fertilizer Corporation started functioning from 1 April 1978. As a result of this reorganisation, the Fertilizer Corporation of India, which was set up in 1961, now has five operating units, namely, Sindri Modernisation and Sindri Rationalisation Gorakhpur, Talcher and Ramagundam.

National Fertilizers Limited presently has four operating units, namely, Nangal and Nangal Expansion, Bhatinda and Panipat.

Hindustan Fertilizer Corporation Limited, which came into being from 1 April 1978, has operating units at Durgapur, Barauni, Namrup and Namrup Expansion, besides being engaged in the implementation of Haldia project in West Bengal.

Rashtriya Chemicals and Fertilizers Limited, another public sector company, which came into being from 1 April 1978, is operating two units, namely, Trombay and Trombay IV and is also incharge of Trombay V which is presently under construction.

Fertilizers and Chemicals Travancore Limited (FACT) has three operating units in Kerala, namely, Udyogamandal (Alwaye), Cochin I and Cochin II.

Madras Fertilizers Limited, another public sector company, which was formed as a joint venture in 1966, has one operating unit at Madras.

The two public sector undertakings which are under the control of the Department of Steel and Department of Mines, namely, SAIL, Rourkela and Neyveli Lignite Corporation, Neyveli, are also engaged in the production of fertilizers.

Rourkela plant is producing calcium ammonium nitrate based on coke oven gas and naphtha. Neyveli Lignite Corporation which was using lignite as feedstock for production of urea has changed over to fuel oil.

Hindustan Copper Limited, another public sector undertaking under the Department of Mines, also has one operating fertilizer unit at Khetri which is producing triple super phosphate.

Indian Farmers Fertilizer Cooperative, a Society in cooperative sector, is also engaged in the production of fertilizers at Kalol and Kandla in Gujarat. Besides, the Society is implementing another fertilizer project at Phulpur.

The major units in the private sector are at Kanpur, Kota, Goa Visakhapatnam, Tuticorin, Baroda, Mangalore, Ennore and Varanasi. Expansion schemes of Kanpur and Tuticorin units are under implementation.

The planning and development division of erstwhile Fertilizer Corporation of India has now been formed into a separate consultancy organisation, by name, Fertilizers (Planning and Development) India Limited with a view to giving the maximum impetus to its working. Fertilizer (P&D) India Ltd. holds licences for process know-how from abroad and also developed certain processes of its own. In the field of catalysts, the organisation has acquired noteworthy competence. Fertilizer (P&D) India Limited, FACT Engineering and Design Organisation (FEDO) of FACT and Engineers India Limited (EIL) have acquired capability in the fields of detailed feasibility reports, civil erection and instrumentation works, detailed engineering,

follow up and inspection etc. The country has developed a wide and diversified base for manufacture of sophisticated equipments for fertilizers. Bharat Heavy Plates and Vessels Limited and Bharat Heavy Electricals Limited are now producing a wide range of plants and equipments used in the fertilizers and allied chemical plants.

MINING AND MINERALS

MINERAL RESOURCES

India is richly endowed with minerals. The estimated deposits of some of the principal minerals found in the country are given below :

Apatite and Phosphorite

Apatite deposits of commercial importance exist in the Singhbhum district of Bihar, Vishakhapatnam district of Andhra Pradesh and Purulia district of West Bengal. Deposits of phosphorite are located in Madhya Pradesh, Rajasthan and Uttar Pradesh. They have been estimated at about 12.86 crore tonnes.

Bauxite

Important deposits occur in Bihar, Goa, Gujarat, Jammu and Kashmir, Karnataka, Madhya Pradesh, Maharashtra, Orissa and Tamil Nadu. Promising reserves have been located in Andhra Pradesh, Goa, Kerala and Uttar Pradesh. The reserves of bauxite of all grades have been estimated at 240.3 crore tonnes.

Coal and Lignite

Vast deposits of coal of Gondwana formation occur in Andhra Pradesh, Bihar, Madhya Pradesh, Maharashtra, Orissa and West Bengal and of the tertiary formation in Arunachal Pradesh, Assam, Meghalaya, Jammu and Kashmir and Nagaland. The overall reserves of coal, both coking and non-coking have been estimated at 8,577 crore tonnes. Of these, the reserves of coking coal in the Gondwana coal-fields alone are about 1,940 crore tonnes.

Significant reserves of lignite occur in Gujarat, Jammu and Kashmir, Rajasthan and Tamil Nadu. The total estimated reserves are about 210 crore tonnes, of which Neyveli field in Tamil Nadu alone contains 192 crore tonnes.

Chromite

Deposits of economic significance occur in Bihar, Karnataka, Maharashtra, Orissa and Tamil Nadu. The total reserves of *in situ* chromite, including lump and fine varieties, are about 1.00 crore tonnes.

Copper Ore

The important copper ore bearing areas are Agnigundala in Andhra Pradesh, Chitradurga, Kalyadi and Thinthini in Karnataka, Singhbhum Mosabani and Rakha in Bihar, Malanjkhand in Madhya Pradesh and Khetri and Dariba in Rajasthan. Besides, minor deposits are also known in Gujarat, Orissa and Sikkim. The aggregate reserves have been estimated at about 45.6 crore tonnes, with a total metal content of 56 lakh tonnes.

Diamond

The Panna diamond belt, the only diamond producing area in the country is spread over the districts of Panna, Chhatarpur and Satna (only some parts) in Madhya Pradesh as well as some parts of Banda district of Uttar Pradesh. The diamond field in the south is spread over the districts of Anantapur, Cuddapah, Kurnool and Krishna in Andhra Pradesh and Bellary in Karnataka. Incidence of Kimberlitic

pipe rock has been noticed for the first time in Jungel area of Mirzapur in Uttar Pradesh.

- Gold* There are three important groups of gold mines in the country, viz., Ramagiri gold field, Anantapur district, Andhra Pradesh; Kolar gold field, Kolar district, and Hutti mines, Raichur district, in Karnataka. Karnataka is the only gold producing state in the country. The estimated gold ore reserves in Karnataka are about 89 lakh tonnes with a total gold content of 66,439 kg.
- Gypsum* Deposits of gypsum are estimated at 120.45 crore tonnes in the country of which Rajasthan, Jammu and Kashmir and Tamil Nadu have 107.18, 10.50 and 1.77 crore tonnes respectively.
- Ilmenite* It occurs mainly in the eastern and western coasts of India, associated with the beach sands. Of the workable deposits of this type, those in Kerala, Orissa and Tamil Nadu are important. Total inferred reserves of ilmenite in beach sands have been put at over 5.2 crore tonnes.
- Iron Ore* Large deposits occur in Bihar, Goa, Karnataka, Madhya Pradesh, Maharashtra, Tamil Nadu and Orissa. The estimated reserves of hematitic ore, containing 55 per cent and more of iron, are about 1,016.6 crore tonnes. Besides, about 468.2 crore tonnes of magnesite ore reserves with 25 to 62 per cent iron content have also been estimated.
- Lead Zinc Ore* The known reserves of lead-zinc ore are located in Gujarat and Rajasthan. Lead ore deposits are known to exist at Agnigundala in Andhra Pradesh and Sargipalle in Orissa. The total reserves have been estimated at about 34.6 crore tonnes and in terms of metal content at 1.8 crore tonnes.
- Manganese Ore* Rich deposits of manganese ore are located in Andhra Pradesh, Goa, Karnataka, Madhya Pradesh, Maharashtra and Orissa. The total measured, indicated and inferred reserves are 8 crore tonnes.
- Mica* Economic deposits of mica are found in three important belts in Andhra Pradesh, Bihar and Rajasthan.
- Nickel Ore* Nickel ore is found in the Cuttack and Mayurbhanj districts of Orissa. The total reserves are placed at 5.81 crore tonnes of which 4.087 crore tonnes are estimated in Kansa block and 1.34 crore tonnes in Saruabil-Sukarangi area.
- Oil* The potential oil-bearing areas are located in Assam, Tripura, Manipur, West Bengal, Ganga Valley, Punjab, Himachal Pradesh, Kutch, eastern and western coastal areas (in Tamil Nadu, Andhra Pradesh and Kerala), Andaman and Nicobar Islands, Lakshadweep and in the offshore areas in the continental shelf.
- Refractories* Important deposits of Magnesite are found in Karnataka, Salem district, (Tamil Nadu) and Almora district (Uttar Pradesh). The estimated reserves of sillimanite are about 3.5 lakh tonnes, of which nearly 1.5 lakh tonnes are in Sonapahar area of Meghalaya and 1 lakh tonnes

in Pipra area of Madhya Pradesh. In the beach sands of Kerala and Tamil Nadu the reserves of sillimanite bearing sands are estimated at 1.0 crore tonnes with about 5 per cent sillimanite. Total estimated reserves of kyanite are 34 lakh tonnes which is found in Bihar, Karnataka, Maharashtra and Orissa. The kyanite deposit around Lapsa Buru in Singhbhum district of Bihar is the largest deposit of its kind in the world.

Airborne Mineral Surveys and Exploration

To accelerate the search for base metal deposits in the country, the Government of India launched two airborne geophysical surveys, namely 'Operation Hardrock' and BRGM/CGC project in 1967 and 1971 respectively.

Follow up explorations carried out after surveys indicate base metal deposits in Andhra Pradesh, Bihar, Rajasthan, Karnataka and Maharashtra.

Mineral Production

The value of mineral production (excluding atomic minerals) increased considerably during the last two decades, from Rs 165.1 crores in 1960 to Rs 1,883.3 crores in 1979. The share of fuels group was the largest, Rs 1421.9 crores, followed by non-metallic minerals Rs 248.6 crores production and index from 1971 to 1979 are given in table 18.9. The data on quantity and value of mineral production (by minerals) during 1978 and 79 are given in table 18.10.

TABLE 18.9
VALUE OF
MINERAL
PRODUCTION

Year	1973	1974	1975	1976	1977	1978	1979 ¹
1. Value of mineral production (Rs crores)	574.4	864.4	1,111.9	1,365.8	1,465.7	1,567.2	1,883.3
2. Quantity ² index of mineral production (Base 1970=100)	107	114	129	138	142	144	150

¹Provisional : ²Excludes atomic and minor minefals.

TABLE 18.10
QUANTITY AND
VALUE OF
MINERAL
PRODUCTION

Minerals (Unit)		1978		1979	
		Quantity	Value (Rs '000)	Quantity	Value (Rs '000)
1	2	3	4	5	6
All Minerals .			1,56,71,757		1,88,32,857
(Total value)					
Fuel .			1,14,00,195		1,42,19,396
(Total value)					
Coal .	'000 tonnes	1,01,973	77,75,517 ¹	1,03,845	93,24,496 ²
Lignite .	"	3,613	1,71,695	3,264	2,63,293
Natural Gas ⁴ .	Million cu. mts.	1,731	1,60,632	1,925	65,511 ²
Petroleum (crude) .	'000 tonnes	11,271	38,90,351 ²	12,841	45,66,096 ²
Metallic Minerals (Total value)			20,12,695		21,27,219
Bauxite .	tonnes	16,62,609	60,201	19,49,262	75,921
Chromite .	tonnes	2,66,293	1,19,120	3,09,769	1,38,835

1	2	3	4	5	6
Copper Ore .	tonne	21,25,818	2,56,842	21,72,839	2,56,371
Diaspore .	"	5,746	1,566	6,317	1,351
Gold .	kgs.	2,774	1,86,611 ²	2,636	1,76,066
Iron Ore .	'000 tonnes	38,838	10,11,993	39,544	10,23,548
Lead concentrate	tonnes	16,833	37,032	20,938	53,729
Manganese Ore	"	16,18,876	1,93,591	17,55,079	2,14,177
Silver .	kgs.	12,083	15,705	11,514	21,058
Tungston concentrate	"	40,748	3,784	38,547	3,524
Zinc concentrate	tonnes	66,019	1,26,250 ²	71,677	1,62,639
<i>Non-Metallic Minerals</i>	"		22,58,867		24,86,242
<i>(Total value)</i>					
Agate .	"	2,268	548	2,164	440
Apatite .	"	29,770	5,427	20,548	4,001
Phosphorite .	"	7,59,500	1,88,489	6,60,936	1,90,536
Asbestos .	"	23,431	10,009	31,639	10,639
Ball clay .	"	96,552	3,845	1,26,992	4,870
Barytes .	"	3,88,582	26,635	4,82,400	32,065
Calcite .	"	27,983	1,098	30,161	2,312
Chalk .	"	74,813	4,939	79,871	3,970
Kaolin (total) .	"	4,17,720	35,115	4,84,109	35,221
Kaolin (Natural)	"	3,03,877	5,409	3,74,447	6,819
Kaolin (processed)	"	1,13,843	29,706	1,09,662	28,402
Clay (others) .	"	71,460	728	79,600	827
Corundum .	"	918	516	910	597
Diamond .	carat	15,942	8,448	14,956	9,504 ³
Delomite .	tonnes	19,69,102	79,475	20,42,388	81,137
Emerald (crude)	carat	34,935	N.D.	3,760	N.D.
Felspar .	tonnes	51,675	1,694	50,157	1,617
Fire clay ⁵ .	"	7,24,813	13,088	7,58,750	14,675
Flourite (concentrates)	"	14,027	21,435	17,092	26,069
Flourite (graded)	"	3,519	4,792	4,132	5,021
Garnet (Abbrasive)	"	2,467	300	6,791	874
Garnet (Gemvariety)	Kilogram	4,912	43	4,957	47
Graphite (r.o.m.)	tonnes	63,784	5,896	51,514	5,135
Gypsum .	"	8,83,858	19,833	8,71,972	23,732
Jaspar .	"	2,631	158	3,325	203
Kyanite .	"	30,897	9,335	40,492	11,379
Andalusite .	"	225	73	—	—
Limestone .	'000 tonnes	30,915	6,74,627	30,815	6,88,327
Limekanker .	tonnes	3,24,285	2,482	1,00,175	1,111
Lime-shell .	"	1,24,060	6,359	1,18,784	6,108
Calcareus sand	"	9,32,350	8,266	7,68,346	7,221
Magnesite .	"	4,14,166	57,236	3,84,665	53,930

1	2	3	4	5	6
Mica (crude) .	tonnes	9,593	26,603	8,980 ¹	24,760
Mica (waste) ⁶ . (scraps etc.)	"	4,681	N.A.	4,965	N.A.
Ochre .	"	77,950	2,127	99,036	2,272
Pyrites .	"	63,781	13,286	56,049	15,255
Sulphur .	"	8,101	4,662	3,665	3,480
Pyrophyllite .	"	38,883	1,306	34,275	1,190
Quartz .	"	1,93,302	4,402	1,91,409	4,969
Puchsite	"	261	96	38	29
Quartzite .	"	1,97,291	5,349	1,30,597	2,269
Sillica Sand .	"	6,57,776	14,786	6,61,806	14,504
Moulding sand	"	90,121	662	1,02,172	754
Salt (rock) .	"	4,281	769	4,363	843
Sand (others) .	"	9,43,736	4,009	8,54,737	3,411
Silliminite .	"	13,471	4,505	15,736	4,833
Slate .	"	14,319	2,022	13,580	1,462
Steatite .	"	2,97,678	16,982	3,32,933	21,001
Staurolite .	"	2	1	—	—
Vermiculite .	"	1,886	216	3,165	357
Wollastonite .	"	1,928	75 ³	3,794	148 ³
Minor minerals (value)	"		9,65,580		11,63,587

¹Provisional²Estimated³Under reference⁴Relates gas utilised⁵Excludes the production of fire-clay, if any recovered incidental to coal mining.⁶Includes mine waste and that obtained while dressing crude mica at mine site.

NA—Not available.

ND—Not determined.

SOME ORGANISATIONS

Several public sector organisations are functioning in the country for the mapping and exploration of minerals, research and exploitation of minerals. Some of the organisation are described below :

Geological Survey of India

The Geological Survey of India (GSI), Calcutta, is the principal agency for mapping and exploration of minerals. During the field season (October-September) 1979-80, it carried out systematic mapping around 56,700 sq km of hard-work terrain and 38,550 sq km of quaternary formations in different parts of the country. Besides, 4,900 sq km of large scale mapping, 175 sq km of detailed mapping and 99,850 sq km of drilling was also carried out to delineate the potential mineralised zones.

- Mineral Exploration Corporation** The Mineral Exploration Corporation (MEC) was formed in 1972 for carrying out detailed mineral exploration, and for providing consultancy and expert services in turn-key projects. It carried out 8 lakh metres of drilling and 38,500 metres of mining till 31 December 1980 since its inception.
- Indian Bureau of Mines** The Indian Bureau of Mines was established in 1948. It carries out research on beneficiation of low grade ores and analysis of ores and minerals. Another important function is collection and publication of mineral information and statistics. It also assists the central government in the formulation of its mineral policy and carries out market surveys for mineral commodities in national and international markets. It provides technical consultancy services to the mining industry.
- National Mineral Development Corporation Ltd.** The National Mineral Development Corporation Ltd., (NMDC) Hyderabad, was set up in 1958 for exploitation of minerals other than oil and natural gas and coal.
- With the passing of the Public Sector Iron and Steel Companies (Restructuring) and Miscellaneous Provisions Act, 1978, the National Mineral Development Corporation Limited, Hyderabad, is no more a subsidiary of Steel Authority of India Limited, and has now become an undertaking of the central government from 1 May 1978. However, the Kiriburu Iron Ore Project developed by the NMDC and Meghahatuburu Iron Ore Project under development, which were with the NMDC earlier, have now been transferred to the Bokaro Steel Plant under the aforesaid Act.
- The NMDC, with the present set up, is concerned with the management of iron ore mines already developed by them at Bailadila Deposit No. 14, Bailadila Deposit No. 5 in Madhya Pradesh, and Donimalai Mine in Karnataka. In addition, the Corporation has, also developed the diamond mines at Panna in Madhya Pradesh. The iron ore produced from the existing mines of the NMDC is earmarked for export except the Donimalai mine for which a specific market is being found.
- The production of iron ore during 1979-80 was 57.04 lakh tonnes. The Corporation earned foreign exchange to the tune of Rs 82 crores during 1979-80.
- Manganese Ore (India) Ltd.** Manganese Ore India Limited (MOIL), was formed in 1962 with the Government of India and the two States (Madhya Pradesh and Maharashtra) holding 51 per cent shares and the Central Province Manganese Ore Company Limited, (CPMO), (a UK based company) holding the balance 49 per cent shares. The shares held by CPMO were acquired by government and MOIL became a wholly state-owned company. It was granted permission to enter the area of Dongri Bugurg Mines in Maharashtra which was previously being worked by CPMO.
- The main activity of the company is mining of manganese ore. The company is the largest producer of manganese ore in the country. The bulk of its production is of high grade ore. Until 1978-79 its activities were confined only to Maharashtra and Madhya Pradesh. It has, however, extended its operation subsequently to Orissa and Andhra Pradesh. The authorised capital of the company is Rs 6 crores and the paid up capital is Rs 2,15,45,100.

Bharat Refractories Ltd.

Bharat Refractories Limited was registered on 22 July 1974, as a wholly owned subsidiary company of Bokaro Steel Limited with an authorised capital of Rs 2 crores. Only one refractories plant located at Bhandaridah was under its control up to 30 April 1978. Consequent upon the restructuring of Steel Authority of India Limited in accordance with the provisions of the Public Sector Iron and Steel Company (Restructuring and Miscellaneous Provisions) Act, 1978, the four more units, namely, (i) HSL Refractories Plant at Marar (now known as Ranchi Road Refractories Plant); (ii) Sillimanite Mines in Meghalaya; (iii) the Refractories Plant of HSL located at Bhilai (now known as Bhilai Refractories Plant) and (iv) India Firebricks and Insulation Company Ltd. (which was subsidiary of SAIL), were transferred to Bharat Refractories Limited from 1 May 1978.

The authorised capital of Bharat Refractories Ltd., is Rs 30 crores and the present paid up capital is Rs 17.57 crores.

Bharat Aluminium Company Ltd.

The Bharat Aluminium Company Ltd., New Delhi, was set up in 1965 to implement two aluminium projects : (i) a 50,000 tonne per annum integrated aluminium project in the Ratnagiri area of Maharashtra, and (ii) a 1,00,000-tonne integrated aluminium project at Korba in Madhya Pradesh. The first stream of the Korba Alumina Plant was commissioned in April 1973. The first phase of the smelter was commissioned in May 1975 and the second phase in September 1977. The third and fourth phases are ready but could not be commissioned due to lack of power supply.

Hindustan Copper Ltd.

The Hindustan Copper Ltd., Calcutta, is responsible for developing the copper deposits in the country. The projects of the company are the Khetri, Chandmari and Dariba copper projects in Rajasthan, Indian copper complex at Rakha in Bihar, and Malanjkhand copper project in Madhya Pradesh. All the projects of the company except Malanjkhand are in production.

The Hindustan Copper Ltd., produced about 22,471 tonnes of blister copper metal in 1979-80.

Bharat Gold Mines Ltd.

The Bharat Gold Mines Ltd., Oorgaum, Karnataka, took over the management of the Kolar Gold Mining Undertaking, a departmental undertaking, from 1 April 1972. Production of gold in 1979-80 was 16.50 lakh gm as compared to 17.92 lakh gm in 1978-79. The undertaking made profit of Rs 377 lakhs for the first time since its inception.

ZINC AND LEAD

There are at present three zinc smelters in the country, two operated by the Hindustan Zinc Ltd., in the public sector and the other by Cominco Binani Zinc Ltd., in the private sector. The public sector smelters are at Debari (Rajasthan) and Vishakhapatnam (Andhra Pradesh), the private sector smelter at Alwaye (Kerala). The total installed capacity of the three smelters is 95,000 tonnes per annum. An expansion programme of the zinc smelter at Debari is under way to increase its capacity from 18,000 to 45,000 tonnes per annum.

There are two lead smelters in the country, operated by public sector Hindustan Zinc Ltd., one at Tundoo (Bihar) and the other at Vishakhapatnam. Tundoo Lead Smelter has a capacity of 8,000 tonnes per annum. The Zinc-Lead Smelter at Vishakhapatnam has an installed capacity of 10,000 tonnes of lead per annum, which is

being increased to 22,000 tonnes per annum. The lead concentrates produced at Company's mines in Rajasthan/Orissa and Agnigundala in Andhra Pradesh is used in lead smelters.

To develop zinc and other allied metals, the Hindustan Zinc Ltd., a central government undertaking, was set up in 1966 at Udaipur, Rajasthan. It is one of the two zinc producers and the only producer of lead in the country. There are seven constituent units of the undertaking, namely, (i) Zawar mines, Rajasthan, (ii) zinc smelter Debari, Rajasthan, (iii) lead smelter, Tundoo (Bihar), (iv) Rajpura Dariba mines, (v) zinc smelter, Vishakhapatnam (Andhra Pradesh), (vi) Sargipalli mine project (Orissa) and (vii) Agnigundala lead mines (Andhra Pradesh).

The Bhotang deposits in Sikkim are being worked by Sikkim Mining Corporation, a company owned by the Government of India and Sikkim Government.

Indigenous production of zinc and lead in public sector during 1979-80 was 44,543 and 11,317 tonnes respectively.

PLANTATION INDUSTRIES

Tea, coffee and rubber plantation together cover only about 0.4 per cent of the cropped area; yet tea is one of the largest foreign exchange earners for the country. These industries, concentrated largely in the north-east and along the south-west coast, employ over 12 lakh workers.

TEA

The production of tea in 1977-78 was 57.4 crore kg. The production during 1976-77 was 51.2 crore kg. Export earnings from tea in 1977-78 totalled Rs 514.82 crores as compared to Rs 293.14 crores during 1976-77.

Instant Tea

During the past few years there has been an increase in the production and export of instant tea. The exports of instant tea were of the order of four lakh kg in 1977-78 valued at Rs 228 crores. The unit value increased from Rs 45.50 in 1976-77 to Rs 57 during 1977-78.

The Tea Board, which is the principal agency for the development of the tea industry, is implementing a number of schemes to increase production. These include long-term loans to tea estates, provision of facilities for acquiring machinery on hire-purchase basis and grant of subsidy to the industry for replanting over-aged tea bushes. A Tea Trading Corporation at Calcutta has also been set up which markets Indian tea in consumer packs in certain selected countries.

COFFEE

Production of coffee during 1977-78 was about 1,02,500 tonnes, comprising 65,000 tonnes of Arabica and 37,500 tonnes of Robusta. The exports of coffee were of the order of Rs 182.74 crores in 1977-78 as against Rs 125.75 crores in 1976-77.

The Coffee Board, which is responsible for the development of coffee industry, has undertaken a coffee development plan to improve the yield and quality of coffee. For this purpose, it advances loans to coffee growers.

CARDAMOM

India is the largest exporter of cardamom and accounts for 70 per cent of the world trade. Production in 1977-78 was about 4,600 tonnes. Export earnings during 1977-78 were valued at Rs 47 crores as against

Rs 19.0 crores in 1976-77. The year 1977-78 registered a record in the history of cardamom industry by remarkable performance in production, exports and prices.

RUBBER

The production of natural rubber during 1977-78 was 1,47,000 tonnes as against 1,50,000 tonnes during 1976-77. The drop in production was due to strikes and climatic conditions in certain plantations. Owing to increased indigenous availability of rubber, the Government of India had banned the import of natural rubber from 1973-74. However, during 1977-78 and in recent months of the current year, the government allowed the import of 15,000 tonnes of rubber by the State Trading Corporation to meet the deficit.

The Rubber Board assists the industry in its problems and decides on major issues pertaining to it. It introduced a replanting subsidy scheme in 1957, under which more than Rs 8 crores were granted as subsidy so far.

VILLAGE AND SMALL INDUSTRIES

Although there has been an impressive development of large-scale industries during the three decades of planned development, India still remains predominantly a country of village and small industries. About two crore persons are engaged in these industries, of whom nearly 90 lakhs work in the handloom industries, i.e., more than the total number of persons employed in the organised industries and mining put together.

The small-scale and village industries sector covers a wide range of traditional and modern small-scale industries including handloom, khadi powerloom, sericulture, coir, handicrafts, village industries and mechanised small-scale industries.

Development

Long before the Industrial Revolution in the West, India was known as the industrial workshop of the world. Indian textiles, calicoes, muslins and metalware were prized abroad. Under the British rule, however, these flourishing industries suffered rapid decay, for, they had to make room for the mass-produced British goods.

It was after independence that action was initiated to solve their age-old problems, such as, lack of credit facilities, outmoded methods and techniques, absence of organised marketing, unsatisfactory arrangements for the supply of raw materials and competition from large-scale units. The union government set up a number of agencies to help the village and small industries. These include the Small Scale Industries Board, the Khadi and Village Industries Commission, the All India Handicrafts Board, the All India Handloom Board, the Coir Board and the Central Silk Board. Apart from this, credit facilities are made available to these industries through a number of institutions. Industrial estates and rural industrial projects have been set up and industrial co-operatives have been organised. State Directorates of Industries and other agencies are responsible for their development in the states.

To determine the requirement of the small-scale sector for framing suitable policy for further development, a national census of small-scale industries, planned and organised by the Small Industries Development Organisation with the participation of the state directorates of industries, was completed during 1975-76. The census operations

covered all the small-scale industries (2,99,186) within the purview of SIDO. A data bank cell had started functioning in SIDO which is likely to grow into a centralised agency for collection, maintenance and dissemination of data regarding the small scale sector.

Expenditure under Plans	During the first three plans, Rs 458.76 crores were spent by the central and state governments for the development of village and small industries. The expenditure during the Annual Plans (1966-69) was Rs 132.55 crores. In the Fourth Plan, the expenditure was Rs 251.01 crores and in the Fifth Plan (1974-78) it was Rs 129.55 crores. The annual plan expenditure for 1978-79 was Rs 73.63 crores and anticipated expenditure for 1979-80 was Rs 86.15 crores.
SMALL-SCALE INDUSTRIES	Between 1973-74 and 1979-80, the value of production in the small scale sector increased from Rs 7,200 crores to Rs 19,060 crores and employment from 39.65 lakhs to 64.60 lakh persons. The sector accounted for about 28 per cent of the total industrial production. In order to give a big boost to the development of small scale industries the investment ceiling limit in the definition of small scale industries had been revised on 23 July 1980. According to the new definition, all the units, having an investment up to Rs 20 lakhs in plant and machinery, have been recognised as small scale units. In the case of ancillary industries, the investment limit in plant and machinery has been increased to Rs 25 lakhs. All the units having an investment in plant and machinery upto Rs 2 lakhs have been recognised as tiny units.
Industrial Estates	The industrial estates programme was launched by the government in 1955 to facilitate the growth of small scale industries by providing all the essential infrastructure facilities. Till March 1979, 13,467 small scale units were working in 662 industrial estates/areas. The value of production by these units amounted to Rs 636.27 crores during 1978-79 and provided employment to 2.19 lakh persons.
District Industries Centres	District industries centres programme (DIC) was initiated on 1 May 1979 with a view to provide an integrated administrative frame-work at the district level which would look after the problems of industrialisation in the district in a composite manner. A plan for such centres was outlined in the industrial policy statement placed before Parliament on 23 December 1977. It is an institution at the district level to provide under one roof, all the services and support required by small and village entrepreneurs. It aims at removing unemployment, disparities between rural and urban areas and the increasing incidence of industrial sickness. Of the 406 districts in the country, 392 districts have been covered by 382 DICs sanctioned so far.
Credit Facilities	Small-scale sector is included in the priority sector for the supply of institutional credit. It receives financial assistance from state governments, state financial corporations and banking institutions. Scheduled commercial banks extended credit to 5.9 lakh units by 30 June 1979 and the amount outstanding was Rs 2,066.32 crores. The state financial corporations granted term loans amounting to Rs 85 crores during 1978-79.

**Import Policy
for 1979-80**

Import licences for raw-materials, components consumables and spares to small scale industrial units, including cottage industry units would be issued for import against free foreign exchange.

On the basis of the recommendations of the concerned sponsoring authorities, new/proposed units in the small scale sector will be eligible to get import licences, covering their requirements for 12 months in respect of items which are mentioned in the banned, restricted lists but excluding those which are absolutely banned under the Import Policy, 1979-80. The maximum value of any such licence in the case of small scale units will be rupees three lakhs.

In case of industries set up in backward areas or by the graduates/diploma holders in professional subjects or by ex-servicemen/persons belonging to scheduled castes/scheduled tribes, the maximum value of the licence shall be Rs 5 lakhs in respect of new or proposed small scale units instead of the normal rupees three lakhs. Such units would be required to pay earnest money at the rate of 1 per cent (instead of 2 per cent as in other case) of the sale value of the quantity of the material registered with the canalising agency, or Rs 50,000 whichever is less. New units in these categories can register their requirements with the canalising agencies concerned covering a period of 15 months (instead of 12 months normally permissible) so that such units have extra stock for 3 months at the start of operation.

**Small Industries
Development
Organisation**

Technical advice and assistance to small-scale manufacturers is provided by the Small Industries Development Organisation through its network of 25 service institutes, 18 branch institutes, 41 extension, 5 production and 3 training centres. The organisation also provides common service and tool room facilities in workshops attached to small industries, service institutes and extension centres. It conducts courses in management and technical disciplines. During 1978-79, it provided technical assistance to 1.31 lakh entrepreneurs and others.

Two new centres, namely, the Central Institute of Tool Designs, Hyderabad and the Institute for Design Electrical Measuring Instruments, Bombay are providing technical guidance and training to entrepreneurs.

Four Regional Testing Centres are set up at New Delhi, Calcutta, Bombay and Madras for providing testing facilities in mechanical, metallurgical, chemical and electrical trades. Besides, two new tool rooms at Calcutta and Ludhiana have been set up.

**National Small
Industries
Corporation**

The National Small Industries Corporation, which was set up in 1955, operates the scheme of procuring machinery for small-scale manufacturers on a hire-purchase basis on concessional terms. It also assists the small-scale sector in processing orders from government departments and agencies. The Prototype Development and Training Centres set up with American, West German and Japanese assistance at Rajkot, Okhla (Delhi) and Howrah impart training to persons engaged in small-scale industries.

**HANDLOOMS
AND POWER-
LOOMS**

The handloom industry ranks in importance next only to agriculture in employment potential. There are about 38 lakh handlooms, of which 12.7 lakhs are in the co-operative sector. About 100 lakh persons depend on this industry for their livelihood. Powerloom industry is of recent growth. There were four lakh power operated looms in the country as on 31 December 1977.

A target of 600 crore metres—370 crore metres for handlooms and 230 crore metres for powerlooms—has been fixed for the Sixth Plan period. This amounts to about 50 per cent of the total requirement of cloth in the country.

The handloom industry has achieved an important position in exports, which increased from Rs 11.60 crores in 1967-68 to about Rs 240 crores in 1977-78.

Development of handloom sector has been given a prominent place in the new economic programme. A comprehensive programme for its all-round development has been undertaken with the commencement of the Central Plan for handloom development. A Development Commissioner has been appointed. Some states have constituted Handloom Development Corporations.

HANDICRAFTS Handicrafts include a large number of crafts which are backed by centuries of experience and skill. The production of handicrafts (including gem and jewellery) was expected to reach Rs 600 crores during 1978-79. As a result of the various development and export promotion efforts, exports picked up from Rs 22.18 crores in 1967-68 to about Rs 169.82 crores in 1976-77. However, exports showed a fall of Rs 14 crores in 1977-78 as compared to the previous year. Steps are being taken to check the trend.

In addition to its contribution to exports, the handicrafts sector employs 14 lakh workers. The number was expected to reach 18 lakh by 1978-79. To promote the development of handicrafts, larger allocations are being made in the central sector. Training programmes are also being organised at important centres.

To increase the production and exports of handicrafts, an All India Handicrafts Board was set up in New Delhi in 1952. It has five regional offices at Bombay, Calcutta, Lucknow, Madras and New Delhi. A Central Handicrafts Development Centre at Bangalore and a Central Crafts Museum at Delhi have also been set up by the Board. For marketing of handicrafts, about 250 emporia have been set up all over India by the central and state governments and administrations of union territories.

19

COMMERCE

EXTERNAL TRADE

Before independence, India had a pattern of trade which was traditionally that of a colonial and agricultural country. The bulk of her foreign trade was confined to Britain and other Commonwealth countries. While exports were based on a few primary commodities, imports were restricted and consisted mainly of manufactured articles. Though, on the surface, there was a favourable balance of trade, it concealed a low level of industrial production and economic development.

With the impressive industrial development since independence, India's foreign trade has undergone a complete change and is no longer confined to a few countries trading in a few commodities. She, now, has trading links with practically all the countries of the world. The items on the exports list today number about three thousand as against fifty at the time of independence.

Similarly, there has been a great increase in imports on account of the development needs of the economy. The composition of imports has, naturally, undergone a great change. The bulk of the imports now consists of sophisticated machines, scarce raw materials, lubricants and oils and fertilizers which are essential for the country's industrial and agricultural development. The country has had an adverse balance of trade mainly on account of heavy imports necessary for its development.

VALUE OF
FOREIGN
TRADE

The total value of foreign trade (imports plus exports including re-exports) during 1979-80 was Rs 15,336.94 crores (provisional) as compared to Rs 12,540.56 crores in 1978-79. The value of imports and exports, the total value of foreign trade and the balance of trade for selected years since 1950-51 are given in table 19.1.

TABLE 19.1
FOREIGN TRADE
OF INDIA

					(Rs crores)			
Year					Imports	Exports (including re-exports)	Total value of foreign trade	Balance of trade
1950-51	.	.	.	.	650.21	600.64	1,250.85	- 49.57
1960-61	.	.	.	.	1,139.69	660.22	1,799.91	- 479.47
1965-66	.	.	.	.	1,408.53	805.64	2,214.17	- 602.89
1970-71	.	.	.	.	1,634.20	1,535.16	3,169.36	- 99.04
1973-74	.	.	.	.	2,955.37	2,523.40	5,478.77	- 432.97
1974-75	.	.	.	.	4,518.78	3,328.83	7,847.61	- 1,189.95
1975-76	.	.	.	.	5,265.20	4,042.25	9,307.45	- 1,222.75
1976-77	.	.	.	.	5,073.79	5,142.25	10,216.04	+ 68.46
1977-78	.	.	.	.	6,025.29	5,404.26	11,429.55	- 621.03
1978-79	.	.	.	.	6,814.30	5,726.26	12,540.56	- 1,088.04
1979-80 ¹	.	.	.	.	8,887.83	6,449.11	15,336.94	- 2,438.72

¹Provisional

The adverse balance of trade, which had been widening since 1954-55 owing to an increase in imports needed to meet the requirements of development and a relatively slower growth of exports showed a generally upward tendency till 1967-68. This trend was reversed in 1968-69, and in the subsequent years up to 1970-71 there was a sharp decline in the country's trade deficit. But again there was a substantial increase in imports during 1971-72 resulting in a fairly heavy deficit in the balance of trade that year. In 1972-73, however, as a result of an appreciable increase in exports, the balance of trade turned into a favourable one for the first time during the last 26 years. Again in 1973-74, the trade turned into deficit and continued to rise up to 1975-76 mainly due to faster growth in imports than exports. During this period, there were difficult trading conditions in the international markets due to recessionary tendencies and protectionist policies followed by developed market economies.

It was once again in 1976-77 when India's trade was in surplus to the extent of Rs 68.46 crores due to faster growth in the exports and a slight fall in imports.

During 1979-80, India's imports increased over the previous year resulting in an adverse balance of trade to the extent of Rs 2,438.7 crores (provisional).

PATTERN OF TRADE

Exports, which had been more or less stagnant during the decade 1951-60, averaging a little over Rs 600 crores per annum, started increasing between 1961 and 1966. On 31 March 1966, exports stood at about Rs 806 crores. There has been an impressive increase in exports since then. In 1979-80, exports totalled Rs 6,449.1 crores (provisional).

EXPORTS

The exports have not only gone up but also witnessed an increasing diversification in recent years. The increase has been well spread over a number of commodities. Among the important items, exports of cotton manufactures went up from Rs 48.2 crores in 1961-62 to Rs 345 crores in 1978-79, iron ore and concentrates from Rs 17 crores to Rs 233.00 crores, unmanufactured tobacco from Rs 14 crores to Rs 111 crores and iron and steel from Rs 10 crores to Rs 115 crores. Exports of jute manufactures which were at the level of Rs 226.0 crores in 1973-74 increased to Rs 294.0 crores in 1974-75 and then declined to Rs 250.8 crores in 1975-76 and further to Rs 201 crores in 1976-77. However, export of jute goods picked up once again in 1977-78 and amounted to Rs 244.8 crores. But in 1978-79, it again fell down to Rs 166.5 crores. Exports of tea which reached an all time high of Rs 180 crores in 1967-68 witnessed a declining trend up to 1973-74, but it picked up in 1974-75 and reached the level of Rs 569.6 crores in 1977-78. In 1979-80, it declined to Rs 355 crores. Among the other important items which showed marked improvement in 1979-80 over 1978-79 are rice, coffee, cotton, jute and leather and leather goods. Table 19.2 gives the principal items of exports for 1970-71 onwards.

A brief review covering some of the important items is given below.

Jute Manufactures

During the past few years, exports of Indian jute goods have been losing ground in the world markets primarily due to keen competi-

EXPORTS OF PRINCIPAL COMMODITIES (BY SEA, AIR AND LAND)

COMMERCE

Commodity	1970-71	1972-73	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80 ¹
Jute manufactures	190.4	250.0	296.8	250.9	201.1	244.0	165.6	341.2
Tea	148.3	147.3	228.1	236.9	293.1	569.7	340.5	355.3
Cotton fabrics	75.3	100.9	158.9	161.2	267.3	224.8	223.9	284.7
(i) Mill-made	67.5	84.4	129.6	121.6	213.1	143.4	n.a.	n.a.
(ii) Handloom	7.8	16.5	29.3	39.6	54.2	81.4	n.a.	n.a.
Coir yarn and manufactures	13.0	14.3	17.9	19.0	24.0	23.9	26.3	34.2
Iron ore	117.3	109.8	160.4	213.9	238.5	240.8	232.9	289.3
Oil cakes	55.4	74.8	96.0	96.5	234.4	133.3	115.8	115.1
Leather & leather manufactures (excluding footwear)	72.2	174.5	145.0	201.5	264.2	248.0	326.3	524.9
Cashew kernels	52.1	68.8	118.2	96.1	106.1	149.5	80.2	110.6
Tobacco	32.6	63.9	82.2	98.4	102.4	117.2	116.3	113.4
Engineering goods	130.4	141.0	356.6	413.0	566.3	617.4	604.4	629.8
Coffee	25.1	32.9	51.4	66.7	126.0	194.4	145.1	163.3
Mica	15.6	16.6	18.2	14.7	17.3	17.3	18.9	17.6
Sugar	27.6	13.3	339.0	472.3	148.1	19.5	136.1	145.8
Pepper	15.3	14.3	34.5	33.9	38.4	49.1	28.9	n.a.
Manganese ore	14.0	8.7	17.6	17.6	19.1	10.9	15.4	13.2
Raw cotton	14.0	21.6	15.2	41.3	27.0	0.7	16.0	74.9
Mineral fuel, lubricants, etc.	12.6	32.0	20.4	37.0	33.0	27.8	19.4	20.8
Iron & steel (excluding ferro-manganese and ferro-alloys)	67.2	23.1	21.1	68.0	290.5	185.4	221.5	100.6
Chemicals and allied products	29.4	35.3	92.9	85.3	110.8	116.7	146.3	199.8
Fish and fish preparations	30.5	54.5	66.2	127.2	180.6	174.3	223.8	249.1
Art silk fabrics	5.3	9.6	18.4	15.4	29.2	26.8	38.9	32.2
Footwear	11.4	12.6	20.3	21.3	29.3	24.0	26.9	31.2
Vegetable oils (essential & non-essential)	10.8	29.6	43.0	39.5	54.6	26.1	18.9	47.9
Cotton apparel	8.6	29.9	96.9	146.4	263.1	235.1	421.2	453.7
Handicrafts	69.9	119.7	186.6	252.0	455.7	751.8	952.3	743.1
of which :								
Pearls & precious & semi-precious stones, unworked or worked	41.9	77.9	98.4	148.5	287.0	545.8	710.6	481.4
Silver	Neg.	Neg.	77.9	174.1	170.8	78.6	94.4	2.2
Others	290.0	371.8	549.1	642.7	851.8	900.8	970.1	1,332.9
TOTAL	1,535.2	1,970.8	3,328.8	4,042.8	5,142.7	5,407.9	5,726.3	6,426.8

¹Provisional.

n.a.—Not available.

Source : Economic Survey—1980-81, Government of India.

from synthetic substitutes and supplies from Bangladesh. During 1976-77, exports of jute goods declined to Rs 200 crores from Rs 250 crores during the preceding year. However, some lost ground was recovered during 1977-78 when export of this item increased to Rs 244.8 crores. During 1978-79, it again declined to Rs 166.5 crores. During 1979-80, it increased to Rs 341 crores.

Jute Corporation was set up in 1971 to stabilise prices of jute at remunerative levels and to market jute goods abroad.

Tea

Exports of tea in 1977-78 increased substantially to Rs 569 crores from Rs 293 crores in the preceding year. It declined to Rs 355 crores during 1979-80.

A Tea Trading Corporation was set up in 1971 to promote exports of packaged tea.

Cotton Textiles

Exports of cotton textiles are subject to quantitative restrictions imposed by a number of industrial countries. This has restricted the scope for increase in exports. Unilateral action by European Economic Community to restrict import of cotton textiles has affected our exports seriously. However, dismantling of quota restrictions by USA on handloom garments is an encouraging development in our favour.

During 1978-79, exports of cotton piece-goods (mill-made) stood at Rs 139 crores as compared to Rs 143 crores during 1977-78 and Rs 200 crores during 1976-77.

Export of ready-made cotton garments stood at Rs 345 crores during 1978-79 as compared to Rs 235 crores during 1977-78.

Unmanufactured Tobacco

The increasing trend in the exports of unmanufactured tobacco continued during 1977-78. It showed a slight fall during 1979-80 when it stood at Rs 102 crores as compared to Rs 110 crores during 1978-79.

A Tobacco Board was set up in January 1976 to deal with the problems of production and marketing of flue-cured virginia tobacco.

Fruits and Vegetables

Exports of fruits and vegetables during 1977-78 amounting to Rs 193 crores were higher by Rs 30 crores compared with the preceding year. The main item under this group is cashew kernels, exports of which amounted to Rs 148 crores as compared to Rs 106 crores in the preceding year, registering an increase of Rs 42 crores.

Engineering Goods

Exports of engineering goods increased to Rs 700 crores in 1978-79 as against Rs 617 crores in 1977-78. The range of engineering goods exported not only showed a fair measure of diversification and specialisation but some of the products also found their way to developed countries.

Iron Ore

Exports of iron ore increased substantially in terms of value but marginally in terms of quantity. They amounted to Rs 233 crores in 1978-79 as against Rs 240 crores in 1977-78.

Iron and Steel

Exports of iron and steel during 1978-79 were valued at Rs 115 crore recording a decrease of Rs 70 crores over the preceding year.

Fish

Exports of fish at Rs 174 crores in 1977-78 recorded a decline of Rs 6 crores over the previous year. The unit value realised from the exports of fish also registered a decline from Rs 28.33 per kg during 1976-77 to Rs 27.48 per kg in 1977-78. The main reason for decline in exports was the government's policy of restricting export of popular fish varieties which have great domestic demand. However in 1978-79, the exports showed an increase which stood at Rs 228 crores.

Coffee

Exports of coffee in 1977-78 at Rs 194 crores registered an increase of Rs 80 crores over the previous year. The increase was due to a rise in quantity exported and in the unit value realised. India's exports of coffee till recently were regulated in terms of the International Coffee Agreement to which she is a signatory. This restricted the scope for increasing the exports to the traditional markets. From 1 October 1973, the operation of the quota and price clauses of the Agreement had been suspended. The world quota system under this Agreement, when introduced, will probably be based on price movements and past export performance. The Coffee Board, therefore, has undertaken a programme to popularise the use of coffee in non-traditional markets to maximise exports. During 1978-79, the exports of coffee declined to Rs 144 crores.

**Leather and
Leather Manu-
factures**

Exports of leather and leather manufactures (excluding footwear) at Rs 248 crores during 1977-78 recorded a decline of Rs 15 crores over the preceding year. However, it increased to Rs 524 crores during 1979-80.

Oil Cakes

Export of oil cakes at Rs 115 crores during 1979-80 declined from the level of Rs 133 crores in 1977-78.

Handicrafts

Exports of gems, precious and semi-precious stones (unworked and worked) improved from Rs 123 crores in 1975-76 to Rs 242 crores during 1976-77 and further to Rs 546 crores during 1977-78 and Rs 710 crores during 1978-79. This increase was due to favourable market conditions abroad, particularly in the USA. An appreciable increase was also recorded in the exports of handmade carpets and druggets. Moderate increase were recorded in the exports of metal artware, handprinted textiles, shawls, scarves and lohis of all fibres.

IMPORTS

Table 19.3 gives principal imports with value, for the years 1970-71 and 1972-73 onwards.

The rising trend in imports was reversed in 1967-68 and imports thereafter continued to decline till 1969-70. The decline was mainly in imports of foodgrains, because of better domestic crop. In some other imports the decline was due to indigenous substitution, shortage of foreign exchange and slackness in domestic demand. There was, however, a sharp increase in imports during 1974-75 and 1975-76 mainly due to larger imports of food, fuel and fertilizers. But in 1976-77, there was a decline in imports. During the next three years, it again showed an increase.

**Imports in
1979-80**

Imports during 1979-80 increased to Rs 8,887.83 crores compared to Rs 6,814.30 crores during the preceding year. The increase in imports

TABLE 19.3
IMPORTS OF PRINCIPAL COMMODITIES (BY SEA, AIR AND LAND)

Commodity	(Rs. crores)								
	1970-71	1972-73	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	
I	2	3	4	5	6	7	8	9	
I. Consumer Goods									
Cereals and cereal preparations	213.0	80.8	763.8	1,342.8	867.6	122.5	86.9	106.7	
II. Raw Materials and Intermediate Manufactures	213.0	80.8	763.8	1,342.8	867.6	122.5	86.9	106.7	
(a) Cashew nuts (unprocessed)	891.1	1,092.4	2,863.8	2,763.6	2,904.8	4,394.2	4,889.1	n.a.	
(b) Copra	29.4	31.8	36.6	33.6	18.3	18.0	9.2	11.6	
(c) Crude rubber (including synthetic and reclaimed)	3.2	0.7	Nil	Nil	1.6	0.1	16.9	0.2	
(d) Fibres	3.8	3.7	7.0	7.0	8.4	10.8	29.7	50.1	
of which :	126.7	114.9	67.1	73.0	203.4	430.8	270.7	n.a.	
(i) Raw wool	15.1	8.9	26.3	25.9	26.2	28.6	29.9	28.3	
(ii) Raw cotton	98.8	90.9	27.4	28.2	129.5	198.9	26.4	0.1	
(iii) Raw jute	0.1	1.1	3.8	3.3	6.8	1.4	1.2	0.1	
(e) Petroleum oil and lubricants	135.9	204.0	1,156.9	1,226.1	1,413.4	1,551.8	1,676.8	3,032.5	
(f) Animal and vegetable oils and fats	38.5	24.9	34.9	17.0	118.0	737.9	552.4	n.a.	
of which :									
Edible oils	23.1	15.5	12.3	14.2	100.6	711.6	537.1	442.1	
(g) Fertilisers and chemical products	216.5	281.8	827.4	824.2	506.1	727.8	911.5	n.a.	
of which :									
(i) Fertilisers and fertiliser materials	99.9	145.7	532.5	533.8	261.2	338.0	449.0	546.1	
(ii) Chemical elements and compounds	68.0	64.9	129.7	180.2	137.8	196.6	230.8	312.4	
(iii) Dyeing, tanning and colouring materials	9.2	9.1	11.4	11.8	15.1	17.4	23.3	25.1	
(iv) Medical and pharmaceutical products	24.3	23.2	34.2	36.3	42.2	63.6	79.2	73.0	

(v) Plastic materials regenerated cellulose and artificial resins	8.1	11.9	18.4	19.5	27.3	66.2	70.0	93.6
(h) Pulp and waste paper	12.3	10.1	9.8	16.0	6.1	21.2	41.7	30.4
(i) Paper, paper board and manufactures thereof	25.1	31.4	59.5	57.7	61.1	81.7	104.7	154.7
(j) Non-metallic mineral manufactures of which : Pearls and precious and semi-precious stones, unworked or worked	33.3	54.2	62.2	96.7	191.8	362.7	557.9	n.a.
(k) Iron and steel	24.6	41.6	53.0	84.2	180.6	330.7	466.6	347.1
(l) Non-ferrous metals	147.0	225.8	423.7	311.9	219.5	259.9	472.3	872.0
III. Capital Goods	119.4	109.1	178.7	100.4	157.1	191.5	245.3	362.7
(a) Manufactures of metals	404.4	550.8	723.3	967.7	1,079.4	1,148.4	1,300.6	1,358.4
(b) Non-electrical machinery, apparatus and appliances	9.3	18.8	27.6	33.1	31.9	38.1	46.1	63.2
(c) Electrical machinery, apparatus and appliances	257.8	297.9	403.5	576.7	731.5	712.9	781.1	775.1
(d) Transport equipment	70.4	134.0	161.0	200.8	145.3	172.2	177.4	208.2
IV. Others (Unclassified)	66.5	100.1	131.2	157.1	170.7	225.2	296.0	311.9
TOTAL	126.1	143.4	167.5	190.7	222.0	355.1	537.7	n.a.
	1,634.2	1,867.4	4,518.4	5,264.8	5,073.8	6,020.2	6,814.3	8,687.52

Source : Economic Survey, Government of India, 1980-81.

¹Provisional.²Revised to Rs 8,795.15 crores for supplementary data received up to October 1980.

n.a.—Not available.

was mainly due to larger imports of edible oils, raw cotton, fertilizers, crude, pearls and precious stones and synthetic fibres.

DIRECTION OF TRADE

The principal countries from which India imported and the value of imports from each of these countries for the years 1950-51, 1965-66, 1970-71 and 1973-74 onwards are shown in table 19.4.

Imports

The table shows that over the years USA has been the largest supplier, mainly because of imports of foodgrains and other items under aid and grants. But due to decline in imports of foodgrains by India, the USA was relegated to the second position in 1972-73. But again from 1973-74 it regained its position with Iran occupying the second place up to 1976-77. There was also appreciable increase in imports from USSR, Japan, Burma, West Germany, Singapore, Italy and Saudi Arabia during the period.

Exports

UK and USA continued to be India's principal buyers until 1968-69. Since 1969-70, USSR and Japan are also among the principal buyers. During 1968-69, the share of UK and USA in India's exports was 14.8 and 17.2 per cent respectively. But in 1976-77 they accounted for 10.2 and 11.0 per cent respectively. However, in 1976-77, USA was the largest buyer with a share of 11.0 per cent in the total exports followed by Japan (10.9 per cent), UK (10.2 per cent) and USSR (8.8 per cent). Other important buyers were France, Germany (West), Italy, Netherlands, Bangladesh, Singapore, Poland, Switzerland, Iraq, Egypt, Indonesia and Iran.

The principal countries to which India exported and the value of exports to each one of these countries for the years 1950-51, 1965-66, 1970-71 and 1973-74 onwards are given in table 19.5. A study of these figures reveals an increasing diversification in the direction of export trade.

TRADE POLICY

Efforts were made to re-orient the export strategy with a view to reducing the social costs of exports and to encouraging the exports of those products in which we have long-term comparative advantage and which are dynamic in terms of expansion possibilities. An essential element of export strategy also has been encouraging diversification in terms of products and markets and increasing bargaining power of our exporters.

Import policy has been liberalised in order to meet the essential requirements of the economy, speedily and without unnecessary administrative costs. It also made available any input that is necessary from export production through REP licences. Besides, a number of items have been placed on the OGL in order to encourage industrial production through liberal imports of raw materials, components and capital goods not available from indigenous sources. A detailed review was carried out after the import policy announcement and further necessary modifications and simplifications were announced in the light of that review. It is expected that this will improve the flow of input supplies for the Indian industry and keep the prices of essential consumer items under check.

Export production base of dynamic commodities such as diamonds, gems and jewellery, handicrafts, etc. has been strengthened by creating new infrastructure, e.g., Hindustan Diamond Corporation, Training Institutes, etc. and schemes for replenishment of gold at international prices, in respect of exports of gold jewellery.

TABLE 19.4
IMPORTS FROM PRINCIPAL COUNTRIES (BY SEA, AIR AND LAND)

Country	1950-51	1965-66	1970-71	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Australia .	3,345	2,418	3,658	4,381	11,848	10,167	25,360	7,248	9,161	14,970
Bangladesh .	—	—	—	1,704	918	465	607	120	177	530
Belgium .	922	1,151	1,151	6,571	10,190	8,649	5,750	15,325	35,644	21,200
Burma .	1,880	972	964	7	1	263	55	303	25	340
Canada .	2,190	3,152	11,723	11,586	13,042	23,201	12,940	18,120	24,013	22,340
Czechoslovakia .	277	2,115	2,020	2,671	3,331	5,301	3,413	2,914	3,080	5,000
Egypt .	3,287	1,995	3,984	2,590	2,283	1,899	2,115	1,403	1,411	2,120
France .	1,107	1,805	2,134	7,029	8,116	19,653	14,110	15,846	22,526	26,620
Germany (West) .	—	13,714	10,747	20,579	30,687	36,996	30,700	55,482	62,616	64,450
Iran .	3,700	3,408	9,164	26,758	47,266	45,988	50,787	54,349	35,246	62,010
Italy .	1,626	1,986	2,886	4,940	7,838	8,483	5,744	8,695	12,109	17,520
Japan .	1,011	7,933	8,343	25,953	45,347	36,118	29,705	42,744	56,437	61,020
Kenya .	1,852	456	969	1,743	983	877	700	42,409	48,206	720
Malaysia ¹ .	81	1,277	575	3,209	1,120	1,458	3,398	22,103	23,968	20,840
Netherlands .	726	1,977	1,909	5,656	4,759	6,383	6,570	8,215	15,780	15,740
Saudi Arabia .	87	866	2,417	13,135	29,765	29,013	33,198	24,680	19,501	37,120
Singapore .	1,608	—	117	972	722	1,166	879	5,097	8,711	15,080
Sudan .	749	574	2,094	2,193	503	364	1,904	5,267	1,735	140
Sweden .	529	1,063	980	2,393	2,599	6,847	3,575	5,773	7,081	7,540
Switzerland .	761	1,451	1,157	1,695	3,652	5,541	904	6,754	7,406	9,970
UK .	13,531	15,009	12,676	25,217	21,340	28,400	32,950	46,107	56,625	66,350
USA .	11,916	53,483	45,295	49,843	72,909	1,28,522	1,05,930	75,587	75,920	86,980
USSR .	23	8,317	10,613	25,473	40,249	30,978	33,200	44,638	46,906	72,860
TOTAL (including other countries)	65,021	1,40,853	1,63,420	2,95,537	4,51,993	5,26,520	5,07,379	6,02,023	6,78,864	8,68,750

¹Figures for 1965-66 relate to Malaysia including Singapore.

TABLE 19.5
EXPORTS TO PRINCIPAL COUNTRIES

Country	(Rs. in lakhs)									
	1950-51	1965-66	1970-71	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Argentina	1,065	415	334	642	1,063	398	229	246	154	279
Australia	2,971	1,749	3,446	5,078	6,141	4,821	6,518	8,256	8,801	9,952
Bangladesh	—	—	—	5,878	4,220	6,219	5,457	5,161	5,286	10,021
Burma	2,446	357	1,403	154	465	928	904	853	1,214	514
Canada	1,379	2,027	2,796	3,109	4,418	4,580	4,988	4,601	4,872	6,127
Cuba	—	29	16	—	—	—	—	—	—	—
Czechoslovakia	1,008	1,593	2,946	4,379	6,038	3,471	4,470	3,727	3,721	4,326
Egypt	587	2,705	5,647	1,488	5,255	10,013	9,089	7,168	6,955	6,950
France	910	1,103	1,798	4,970	8,622	8,622	17,703	14,614	17,771	17,928
Germany (West)	—	1,797	3,231	1,679	10,617	11,791	22,977	24,451	27,337	36,527
Indonesia	42	82	410	2,678	5,096	5,172	6,058	4,074	8,079	5,628
Italy	1,500	939	1,401	6,935	5,243	8,007	11,900	10,060	13,798	22,118
Japan	1,027	5,705	20,348	35,875	29,665	43,276	54,415	50,583	59,742	66,491
Kenya	641	486	787	1,028	1,540	1,572	1,994	2,881	3,609	3,247
Malaysia ¹	550	1,259	1,173	2,463	2,926	3,285	2,990	3,363	4,500	5,079
Netherlands	1,016	791	1,398	7,334	7,175	8,223	19,529	13,713	18,127	22,841
New Zealand	367	657	597	1,355	2,074	1,290	1,350	1,410	1,278	2,369
Nigeria	462	400	862	1,149	2,161	3,755	2,499	2,960	2,724	2,902
Singapore	3,068	—	1,763	4,354	3,679	5,305	5,883	6,926	7,972	7,845
Sri Lanka	1,968	1,279	3,182	984	2,685	2,311	3,935	5,459	8,865	10,585
Sudan	418	817	3,827	1,859	6,646	3,652	5,250	3,558	4,467	3,443
UK	13,982	14,478	17,044	26,314	31,226	42,132	52,069	52,527	53,076	47,360
USA	11,588	14,698	20,734	34,592	37,493	51,998	57,597	67,702	76,904	77,718
USSR	138	9,289	20,985	28,602	42,135	41,669	44,590	65,688	41,059	65,565
TOTAL (including other countries)	60,064	80,564	1,53,516	2,52,340	3,32,883	4,04,281	5,14,323	5,40,787	5,72,463	6,42,675

¹Figures for 1965-66 relate to Malaysia including Singapore.

**EXPORT
PROMOTION**

To impart dynamism to the country's efforts to expand and diversify the exports, a series of measures have been put into operation. These cover export assistance and incentives, transport facilities, training in market research, rationalisation of institutional arrangements and technical services including some with the help of UN agencies and friendly countries and establishment of joint ventures abroad. Other facilities provided include release of foreign exchange for specified purposes, import replenishment, priority in allotment of scarce raw materials, in some cases at concessional prices, drawback of import and excise duties and other general and specific reliefs in line with international trade practices.

The government and the Reserve Bank have taken measures from time to time to facilitate credit for exporters at reasonable interest. Exporters can obtain both pre-shipment and post-shipment advances from commercial banks at concessional rate of interest. The Industrial Development Bank of India makes advances to exporters of capital goods and machinery in association with commercial banks.

To help exporters meet the competition in foreign market, develop marketing competence and neutralise the disadvantages inherent in the present stage of the development of the economy, a scheme has been put in force under which cash compensatory support is offered on the exports of selected non-traditional industrial products with substantial export possibilities.

The export promotion measures aim at increasing production and diversifying export products so as to secure maximum benefit for the domestic economy. The government has constituted task forces for many product groups, namely, electronics, leather and leather manufactures, handicrafts, gem and jewellery, furniture and agricultural products. These task forces include representatives of trade and industry, export-related institutions, government agencies and experts. Special task forces have also been set up to encourage exports of the small scale industries.

Organisation

The Government of India has established several specialised organisations for export promotion. The more important of these are briefly described below :

The Central Advisory Council on Trade, constituted on 15 February 1978, advises the government on matters relating to (i) exports and imports policy and programmes, (ii) the operation of import and export control, (iii) organisation and development of commercial services and (iv) organisation and expansion of export production. The Council has been constituted to replace the Board of Trade, which was set up in 1962 and reconstituted in October 1976, and the Advisory Council on Trade, which was constituted in January 1977.

The Trade Development Authority, New Delhi, has been established to induce and organise entrepreneurs, largely in the medium and small scale, to develop their individual export capabilities.

The Federation of Indian Export Organisations, New Delhi, co-ordinates and supplements the export promotional activities of various organisations and institutions such as Export Promotion Councils, Commodity Boards, Chambers of Commerce, trade associations and other specialised bodies. During 1975-76, the government announced a scheme for providing financial assistance to the consultancy firms registered with the FIEO to explore avenues available abroad for promotional activities in export business.

Export Promotion Councils aim at securing the co-operation of consumers, producers and exporters in the country for export promotion. The Councils perform both advisory and executive functions.

Commodity Boards are statutory bodies and are responsible for production, development and export of certain commodities. At present, five such Boards are in existence dealing with tea, coffee, cardamom, rubber and tobacco (see also chapter 'Industry').

Besides Export Promotion Councils and Commodity Boards, there are recognised Export Houses which specialise in export trade. The export house scheme was revised during 1976-77. According to the present scheme, export house certificates are issued to those exporters who fulfil the minimum prescribed requirements in terms of their export performance during the last three years. They are also required to fulfil prescribed requirements such as managerial capacity, adequate finances, etc. Recognition certificates are issued by the office of the Chief Controller of Imports and Exports after close scrutiny of the performance of each applicant. Recognised export houses are entitled to government assistance from the Marketing Development Fund for a wide range of their activities in addition to the benefits under the Registered Exporters' Policy.

The Indian Institute of Packaging, Bombay, established in 1966, undertakes research on raw materials for the packaging industry. It organises training programmes on packaging technology and consultancy services for the industry. It has two regional offices, one in Madras and the other in Calcutta.

The Indian Institute of Foreign Trade, New Delhi, an autonomous organisation under the Societies Registration Act, is primarily concerned with developing training programmes, research and market studies.

The *Export Inspection Council*, Calcutta, is a statutory body set up under the Export (Quality Control and Inspection) Act, 1963 to adopt measures for the introduction and enforcement of quality control and compulsory pre-shipment inspection of various exportable commodities. Quality control of textile goods and machinery is conducted by the *Textiles Committee*, Bombay, set up under the Textiles Committee Act, 1963.

The *Indian Council of Arbitration*, New Delhi, was set up in 1965 to promote arbitration for settling commercial disputes and to popularise arbitration among traders, particularly those engaged in international trade.

A statutory board called the *Marine Products Export Development Authority* was set up in 1972 at Cochin for the development of the marine products industry with special reference to exports.

An *Export Processing Zone* has been set up at Santa Cruz, Bombay, to promote the export of electronic equipments and components. It is entirely an export-oriented project and the units admitted to it will be obliged to export cent per cent of their production.

The *Handicrafts and Handlooms Export Corporation*, a subsidiary of the State Trading Corporation, and the *Indian Motion Pictures Export Corporation* are engaged in promoting exports in their respective fields.

**TRADE FAIR
AUTHORITY
OF INDIA**

With a view to giving a new orientation to the country's trade promotion through fairs and exhibitions, an autonomous organisation, namely, Trade Fair Authority of India has been set up as a government company under Section 25 of the Companies Act of 1956. It takes over the functions of the erstwhile Directorate of Exhibitions and Commercial Publicity, the Trade Fair Organisation and the Indian Council of Trade Fairs and Exhibitions. The Authority started functioning from 1 March 1977. It undertakes publicity for Indian goods by participating in international trade fairs and exclusive Indian exhibitions abroad. It also organises national fairs and exhibitions in India.

**TRADE
AGREEMENTS**

To forge close commercial relations, India has entered into trade agreements with a number of countries. From time to time, trade and economic delegations are also exchanged with other countries with a view to increasing and diversifying the flow of trade both in pattern and direction.

There are, at present, 68 commercial offices attached to Indian missions abroad which play a vital role in promoting India's trade and economic relations with other countries. The India Trade Centre, which functions as a part of the Economic Mission of India to EEC, was inaugurated on 29 February 1980. The Centre has been set up within the programme of the trade promotion sponsored jointly by the Commission of the European Communities and the Government of India.

During 1980-81, annual trade protocols for 1981 were concluded with Romania, Czechoslovakia and GDR. Long-term protocols for 1981-85 were signed with USSR and Poland. The salient feature of the trade agreement between India and USSR is that the latter agreed to offer 10 lakh tonnes of crude oil and 3.50 lakh tonnes of HSD in addition to the agreed provisions. The trade agreement with Romania, GDR and Poland stipulated the continuance of trade in non-convertible Indian rupees.

**PUBLIC
SECTOR
AGENCIES**

For increasing State participation in the country's export and import trade, a number of public sector agencies have been set up. A brief description of some of the important agencies is given below :

***State Trading
Corporation***

The State Trading Corporation of India Ltd. (STC) was registered in 1956 under the Indian Companies Act. Its main objective is to enlarge the scope of India's exports and to arrange for essential imports. Its activities are directed towards the diversification of exports, expansion of existing markets and development of new markets for traditional and non-traditional products. It also often undertakes price support and buffer stock operations in certain commodities. The Corporation works in close co-operation with the government, the trade and industry.

The STC group now includes STC, Cashew Corporation of India, Handicrafts and Handloom Exports Corporations, Projects and Equipment Corporation, State Chemicals and Pharmaceuticals Corporation and Central Cottage Industries Export Corporation. From a small beginning in 1956-57, when the turnover of STC group was Rs 9.2 crores, there has been a rapid growth in turnover to Rs 1,529 crores during 1979-80.

During 1976-77, the total exports of the STC were of the order of

Rs 666 crores, imports Rs 301 crores and domestic trade worth Rs 8 crores. During 1979-80, the exports of the STC amounted to Rs 636 crores.

STC exports a wide range of products such as sugar, rice, coffee, tobacco, castor oil, leatherware, bulk commodities such as cement and salt, textiles and manufactured products. As a policy to make available mass consumption items in the domestic markets, export of few items like rice, vegetables, etc. were restricted. Due to unfavourable international prices, export of sugar was not undertaken.

Though originally set up as an agency to handle trade with Eastern Europe, STC is now handling trade with other areas also.

STC promotes exports of the products of small and medium scale industries through assistance in finance, quality control, raw materials and marketing.

The Corporation arranges imports of raw materials required for the country's economic and industrial development. Such imports include edible oil, raw wool, synthetic yarn, newsprint and many other items.

STC maintains a network of offices at Beirut, Belgrade, Budapest, Buenos Aires, Colombo, Dacca, East Berlin, Frankfurt, Hongkong, Kuwait, London, Moscow, Nairobi, New York, Paris, Singapore, Sydney, Jeddah, Milan, Tokyo, Baghdad and Dar-es-Salam.

*Projects and
Equipment
Corporation*

The Projects and Equipment Corporation of India Ltd. was formed in 1971 as a subsidiary of the STC consisting of the Engineering and Railway Equipment Divisions of STC.

The main objectives of the Corporation are to boost the export of engineering, industrial and railway equipment, to penetrate new markets and to foster export ventures and turn-key projects.

The sales turnover of the Corporation during 1980-81 was expected to be of the order of Rs 42.47 crores as compared to Rs 36.66 crores during the previous year.

*Cashew Corpora-
tion of India*

Set up in 1970 as a subsidiary of the STC, the Cashew Corporation of India ensures steady supplies of imported raw cashewnuts at fair prices to the export-oriented cashew processing industry. During 1979-80, the turnover of the Corporation was Rs 20.7 crores. The Corporation has two offices, one in Paris and the other in New York, which carry out export publicity for Indian products.

*Handicrafts
and Handlooms
Export Corpora-
tion*

The Handicrafts and Handlooms Export Corporation, a subsidiary of STC, promotes the export of Indian handloom and handicraft products and ready-to-wear garments, besides the canalised export of woollen knit-wear. During 1977-78, exports of the Corporation amounted to Rs 58 crores as compared to Rs 45 crores in 1976-77.

*Minerals and
Metals Trading
Corporation*

The Minerals and Metals Trading Corporation (MMTC), set up in 1963, is the premier international trading house in the public sector for expanding the exports of mineral ores from the country. The total trade turnover of the Corporation during 1979-80 was about Rs 1,410 crores (provisional), exports amounting to Rs 215.5 crores (provisional) and imports Rs 1,187.8 crores (provisional).

*Mica Trading
Corporation*

The Mica Trading Corporation of India Ltd., Patna, was incorporated in 1973 as a subsidiary of the MMTC to handle the mica trade

exclusively. An important objective of the Corporation, which started functioning from June 1974, is to advise the small exporters on free participation in export trade which had hitherto been dominated and monopolised by a few big mine owners and exporters. During 1979-80, processed mica valued at Rs 30.40 crores was exported by MITCO and private exporters.

State Chemical and Pharmaceuticals Corporation of India

The State Chemical and Pharmaceuticals Corporation of India Ltd. was incorporated as a subsidiary of STC on 1 January 1976. It has been set up to provide specialised service to the industry. It will take over the trade in chemicals and drugs, hitherto handled by STC. Its turnover during 1980 was about Rs 129 crores as compared to about Rs 125 crores during 1979.

Central Cottage Industries Corporation of India

The Central Cottage Industries Corporation of India Ltd. was incorporated as a subsidiary of HHEC on 4 February 1976. It took over the central cottage industries emporium on 1 April 1976. The Corporation was expected to achieve a turnover of Rs 4.8 crores during 1977-78.

INTERNAL TRADE

The internal trade of India is many times larger than its external trade, owing to the vastness of the country, its varied climate and diverse natural resources.

The internal trade can be classified under five broad heads. These are : (i) rail-borne trade, (ii) river-borne trade, (iii) coasting trade, (iv) trade borne on other craft, and (v) trade by air. Complete and precise data about internal trade are not available because reliable statistics pertaining to items (iv) and (v) are not available.

Rail-and-River Borne Trade

Statistics of rail-and-river borne trade are based on the invoices of the railways and steamer companies. Till March 1965, they were recorded on 'import' basis but since then they are being recorded on 'export' basis. For the purpose of these statistics, India is divided into a number of trade blocks, roughly representing the states of the Indian union. The chief port towns of Bombay, Calcutta, Cochin and Madras are constituted as separate trade blocks. Similarly, the less important ports are grouped as 'other ports', each of which is treated as separate trade block.

Table 19.6 shows the movement of selected articles by rail and river between different trade blocks¹ for selected years between 1960-61 and 1977-78. The internal trade of each block is not included in these figures.

¹Up to March 1962, India was divided into 29 trade blocks. The number increased to 31 in April 1962, consequent on the bifurcation of Bombay State and further to 32 in April 1964 after the formation of the State of Nagaland. The number went up to 34 in April 1967 after Haryana was formed and Chandigarh became a centrally-administered territory. The Kandla port was introduced as a new trade block in April 1975. The number of trade blocks increased to 38 from April 1977. The new blocks are Arunachal Pradesh, Mizoram and Meghalaya.

TABLE 19.6
RAIL-AND-RIVER
BORNE TRADE

	('000 quintals)					
Commodity	1960-61	1965-66	1974-75	1975-76	1976-77	1977-78 ¹
Coal and coke .	3,14,796	3,31,919	3,38,574	3,90,533	4,05,367	4,21,525
Raw cotton .	3,982	3,143	3,541	3,340	3,344	1,970
Cotton piece-goods .	2,643	2,563	786	715	550	532
Rice (not in husk) .	22,283	16,898	20,707	25,937	33,501	47,245
Wheat .	30,642	45,959	50,774	68,983	65,808	60,969
Raw jute .	4,015	4,615	3,675	4,534	3,734	3,418
Iron and steel products	37,025	73,432	85,328	90,760	89,820	79,845
Oilseeds .	9,509	7,796	7,429	8,639	8,550	5,885
Salt .	13,539	20,860	27,151	28,572	27,359	26,588
Sugar (excluding Khand-saris sugar) .	9,106	10,492	12,999	16,939	14,051	10,805

¹Provisional

Note : The above statistics relate to quantities only as value figures are not recorded in the railway and steamer companies' invoices. Besides, the trade carried by only one steam company between three trade blocks was recorded from April 1960 to August 1965. The company suspended its river service from September 1965. Inland trade data for 1972-73 cover river borne trade carried by the Inland Water Transport Corporation Limited. Further, non-trade freight movements are also included because of the difficulty of isolating them.

Coasting Trade

Coasting trade is recorded under two broad heads—(i) internal trade, i.e., trade amongst the ports within the same maritime block, and (ii) external trade, i.e., trade between one maritime block on the one hand and all other maritime blocks on the other. Table 19.7 shows the value of coast-wise trade of India in selected years since 1960-61.

TABLE 19.7
COAST-WISE
TRADE

	(Rs lakhs)					
	1960-61	1970-71	1972-73	1974-75	1975-76	1976-77
<i>Imports</i>						
Indian merchandise .	17,105	11,299	12,124	15,966	10,262	11,631
Foreign merchandise .	361	—	—	—	—	—
Treasure .	—	—	—	—	—	—
Total Imports .	17,466	11,299	12,124	15,966	10,262	11,631
<i>Exports</i>						
Indian merchandise ¹ .	17,683	11,299	12,124	15,966	10,262	11,631
Foreign merchandise ¹ .	442	—	—	—	—	—
Treasure .	—	—	—	—	—	—
Total Exports .	18,125	11,299	12,124	15,966	10,262	11,631
Total Trade .	35,591	22,598	24,248	31,932	20,524	23,262

¹The distinction between Indian and foreign merchandise was abolished from April 1964.

20

TRANSPORT

RAILWAYS

The Indian railway system is the largest in Asia and the fourth largest in the world. It is also the biggest public undertaking in the country. The railways, during 1979-80, had a route length of 60,933 km. They ran daily about 11,000 trains, covering a distance of about 13 lakh kms, operated 7,017 stations, carried over 350.50 crore passengers and about 21.80 crore tonnes of freight. The operational fleet consisted of 11,068 locomotives, 38,052 coaching vehicles and 4,05,185 wagons. They employed 15.5 lakh regular employees and about 2.3 lakh casual labourers. The total investment was Rs 6,728.1 crores and the revenue Rs 2,337.84 crores.

Progress under
the Plans

As a result of planned development since 1951, both the passenger and goods traffic have more than doubled. The passenger vehicles and wagons have practically doubled but the number of locomotives has increased by 35.85 per cent.

There has also been a progressive increase in expenditure on the development of railways under the Five Year Plans. It was Rs 423.73 crores, Rs 1,043.69 crores, Rs 1,685.63 crores, Rs 1,419.76 crores and Rs 1,523.22 crores in the First, Second, Third, Fourth and Fifth Plans respectively.

Tables 20.1 and 20.2 show the progress of the government railways for selected years since 1950-51.

TABLE 20.1
PROGRESS OF
GOVERNMENT
RAILWAYS

Year	Route length (kilometres)			Running track (km)	Passengers originating (lakh)	Goods originating (lakh tonnes)
	Electrified	Non-electrified	Total			
1950-51 . .	388	53,208	53,596	59,315	12,840	930
1960-61 . .	748	55,499	56,247	63,602	15,940	1,562
1965-66 . .	2,423	55,976	58,399	68,375	20,820	2,030
1970-71 . .	3,706	56,084	59,790	71,669	24,311	1,965
1971-72 . .	3,953	56,114	60,067	73,225	25,358	1,978
1972-73 . .	4,055	56,094	60,149	73,664	26,530	2,013
1973-74 . .	4,191	56,043	60,234	74,401	26,537	1,849
1974-75 . .	4,397	55,904	60,301	74,197	24,290	1,966
1975-76 . .	4,659	55,557	60,216	74,255	29,452	2,233
1976-77 . .	4,720	55,946	60,666	74,839	33,003	2,391
1977-78 . .	4,720	55,973	60,693	75,012	35,037	2,373
1978-79 . .	4,723	56,054	60777	75,195	37,192	2,234
1979-80 . .	4,820	56,113	60,933	75,450	35,053	2,178

Modernisation
of Railways

Tables 20.1 and 20.2 also show the trend towards modernisation of railways. The electrified route length has increased more than 12 times since 1950-51. Steam locomotives, production of which was discontinued from 1972, are being gradually replaced by electric and diesel locomotives. Since the beginning of the five year plans, the number of diesel locomotives has gone up by more than 130 times, from a mere 17 in 1951 to 2,238 in 1979-80 and of electric locomotives by more than thirteen times, i.e., from 72 to 974. Diesel and electric locomotives together carried 88.6 per cent of the total goods

traffic in terms of gross tonne km in 1979-80 (10 per cent in 1960-61), although, in terms of numbers, these were only 29 per cent of all locomotives on line. Modernisation and improvement of signalling and telecommunications have also made much headway. In 1979-80, the multi-channel microwave link was in operation on 11,995 km.

TABLE 20.2
ROLLING STOCK

Year	Number of locomotives				Number of coaching vehicles ¹	Number of wagons
	Steam	Diesel	Electric	Total		
1950-51 . . .	8,120	17	72	8,209	19,628	2,05,596
1960-61 . . .	10,312	181	131	10,624	28,439	3,07,907
1965-66 . . .	10,613	727	403	11,743	32,922	3,70,019
1970-71 . . .	9,387	1,169	602	11,158	35,145	3,83,990
1971-72 . . .	9,222	1,288	639	11,149	35,561	3,82,725
1972-73 . . .	8,963	1,431	668	11,062	35,837	3,84,283
1973-74 . . .	8,847	1,610	669	11,126	36,422	3,88,366
1974-75 . . .	8,682	1,702	729	11,113	36,564	3,90,968
1975-76 . . .	8,496	1,803	796	11,095	36,821	3,95,250
1976-77 . . .	8,345	1,903	847	11,095	36,788	3,97,773
1977-78 . . .	8,215	2,025	901	11,141	37,228	3,99,971
1978-79 . . .	8,082	2,126	945	11,153	37,642	4,01,880
1979-80 . . .	7,856	2,238	474	11,068	38,052	4,05,185

¹Includes electric multiple units.

Improvement in the standards of track for higher speeds on trunk routes and important mainlines is being brought about with the help of track recording cars, which are now being produced by the railways themselves. The improvement in the standard of track has enabled Delhi-Howrah and New Delhi-Bombay Rajdhani Express trains to run at speeds of 130 and 120 km per hour respectively. Some other mail and express trains are also running at 100 to 110 km an hour. On the metre gauge also the maximum permissible speed has been raised from 75 km to 100 km per hour. So far, more than 16,000 km of track on trunk routes and main lines have been brought up to the standards for operation of speeds above 100 km an hour.

Manufacture of Rolling-stock

Railway locomotives are built in Chittaranjan Locomotive Works, Chittaranjan and Diesel Locomotive Works, Varanasi, both of which are administered by the Ministry of Railways. Chittaranjan Locomotive Works (CLW) produced its first engine in 1950-51 and achieved a production level of 173 locomotives per year during 1959-60, against the target of 168. In December 1971, it produced its last steam engine, taking its total production to 2,351 units, before it switched over to the manufacture of mainline electric and diesel-hydraulic shunting locomotives. During the same period, most of the metre gauge steam engines were built by TELCO, a private sector firm.

CLW turned out its first DC electric loco in 1961-62 and the first diesel-hydraulic shunter in 1967-68. Overall production till March 1980 totalled 759 electric locos, 377 diesel-hydraulic shunters and 30 narrow gauge diesel-hydraulic locos. The electric locos produced included 53 dual current AC/DC locomotives which can operate both on 1500 V DC and 25KV AC electric supply.

Diesel electric mainline locos as also shunters are built by the Diesel Locomotive Works (DLW). It commenced production of broad gauge locos in 1963-64, and from 1968-69 it also started manu-

facturing metre gauge locos. No diesel electric locos have been imported since then. Up to March 1980, the DLW had delivered 1,038 BG (WDM-2) and 198 MG main-line diesel locomotives, besides 56 BG high capacity diesel shunters (WDS-6) and 21 BG shunters (WDS5). The import content of an AC MT electric locomotive turned out of CLW is only 10.25 per cent including wheel sets and that of a diesel electric locomotive turned out of DLW is about 4.76 per cent for WDM2 class and 6.6 per cent for YDM4 class. Similarly, the import content of a WDS4 diesel shunter is 15.29 per cent.

Bulk of the passenger service vehicles are manufactured in the Integral Coach Factory (ICF), Perambur, which is also administered by the Ministry of Railways. ICF's production is supplemented by two public sector undertakings—BEML and Jessops; these three together meet the entire requirements of the railways.

Since ICF commenced production of passenger coaches in 1955-56, it turned out 11,960 passenger service vehicles (fully furnished coaches) till March 1980. Originally planned for manufacturing 350 BG third class coach shells per annum, ICF's capacity was later expanded in 1973-74 to 750 fully furnished coaches per year. It is now understood to be the world's largest railway coach building factory. The passenger service vehicles produced by ICF and Jessops include EMUs also. The electrical equipment for these are manufactured by another public sector unit—BHEL.

The Railways' requirement of wagons is met mostly by the industry which include units both in the public sector and private sector. Three railway repair workshops supplement the production of these units. In 1979-80, production totalled 10,827 wagons in terms of 4-wheelers, of which 9,173 were turned out by the industry.

Passenger Traffic and Amenities

The passenger traffic was over 35 crores in 1979-80 as against 12.8 crores in 1950-51. The earnings from the II class passengers were Rs 659 crores in 1979-80 as compared to Rs 84.47 crores in 1950-51.

The average rate charged per passenger for every kilometre was 2.72 paise (ordinary) and 4.41 paise (mail/express) for II class passengers, 11.5 paise for I class and 32.0 paise for air conditioned class passengers. The rates for II class passengers were among the lowest in Asia.

Since passengers travelling by II class form the bulk of the railway users and are also the main source of income, more and more amenities have been provided for them. Fifty-six Janta trains are run exclusively for them. Two-tier and three-tier sleeper coaches have been introduced for their convenience on all mail and express trains. All-steel and light-weight integral type coaches have been provided for safe and comfortable travel.

The task of providing basic amenities, such as, proper booking arrangements, waiting halls and drinking water supply at all stations was completed in 1970-71. Catering arrangements are available at 4,321 stations and 75 pairs of trains. Ready-to-serve food is supplied in several trains and the sale of cheap food packets was in force at 204 important stations.

Goods Traffic

The railways carried over 21.78 crore tonnes of goods in 1979-80 as compared to 9.3 crore tonnes in 1950-51. The freight revenue was

Rs 1,394.11 crores in 1979-80. The principal commodities carried by railways are shown in table 20.3.

To speed up movement of freight, many fast goods trains have been introduced on important routes. The first daily super parcel express between Delhi and Calcutta, covering the distance in 34 hours, was introduced in 1973.

To provide door-to-door service, a container service is also operated. The containers are carried on guaranteed schedules by fast goods trains. The service, at present, covers Bombay-Ahmedabad, Bombay-New Delhi, Madras-Bangalore, Calcutta-New Delhi, Bombay-Madras, Bombay-Secunderabad, Bombay-Bangalore, Calcutta-

(*000 tonnes)

TABLE 20.3
PRINCIPAL
COMMODITIES
CARRIED BY
RAILWAYS

Commodity	1950-51	1960-61	1975-76	1976-77	1977-78	1979-80
Coal	30,911	50,396	80,518	82,340	83,850	75,782
Cement	2,471	6,548	11,597	13,700	13,600	10,038
Iron and steel	2,750	7,588	10,758	12,695	11,427	10,471
Metallic ores (other than manganese ore)	3,055	11,140	26,933	28,299	27,842	25,449
Manganese ore	881	1,230	1,331	1,340	1,228	1,307
Foodgrains	7,805	12,659	16,184	19,961	19,444	18,354
Raw jute	470	644	632	587	530	424
Tea	265	250	116	118	104	86
Paper and paper products	193	442	899	986	1,000	1,002
Jute manufactures	271	263	548	419	338	478
Raw cotton	525	536	382	348	287	410
Cotton textiles	472	380	123	103	92	99
Oilseeds	1,595	1,517	1,168	1,153	899	949
Sugarcane	2,819	3,237	1,491	1,395	1,391	1,093
Sugar	933	1,488	2,038	1,781	1,520	1,169
Salt	1,576	1,981	2,904	2,971	2,889	2,881
Chemical manures	589	1,394	7,169	7,776	8,211	8,233
Mineral oil	2,692	4,700	11,663	12,395	13,062	14,266

Bombay, Calcutta-Madras, Bombay-Kota and New Delhi-Madras-Bangalore routes. A new super express goods service was introduced between Howrah and Gauhati from May 1976.

Administration

The responsibility for the administration and management of government railways vests in the Railway Board under the overall supervision of a Cabinet minister. The Board consists of a chairman, who is *ex-officio* Principal Secretary to the Union Ministry of Railways, a Financial Commissioner and three other members, who are all *ex-officio* Secretaries to Government of India in the Ministry of Railways.

Railway Zones

The railways are divided into nine zones, each headed by a General Manager, who is responsible to the Railway Board for operation, maintenance and financial matters.

The nine zones, with their headquarters and the route kilometres in brackets, are : Central (Bombay-VT, 6,684), Eastern (Calcutta, 4,202), Northern (New Delhi, 10,853), North-Eastern (Gorakhpur, 5,113), North-East Frontier (Maligaon-Gauhati, 3,628), Southern (Madras, 6,629), South-Central (Secunderabad, 6,478), South-Eastern (Calcutta, 7,007), and Western (Bombay-Churchgate, 10,339).

Co-operation between the public and the railway administration is secured through various committees including (i) National Railway Users' Consultative Council, (ii) Zonal Railways Users' Consultative Committees, and (iii) Divisional Railway Users' Consultative Committees.

Railway Finances Since 1924-25, railway finances remain separated from general revenues. They have their own funds and accounts and the railway budget is presented separately to Parliament. However, the Railways contribute to the general revenues a fixed rate of dividend on the capital invested. The quantum of contribution, which at present includes the dividend, payment in lieu of the merger of passenger tax with passenger fares and contribution to the Railways Safety Works Fund, is reviewed periodically by a Parliamentary Convention Committee. So far, six such committees have been appointed.

Table 20.4 gives an outline of government railway finances for selected years since 1955-56.

TABLE 20.4

		(Rs crores)					
Item		1955-56	1965-66	1975-76	1977-78	1978-79	1979-80
GOVERNMENT RAILWAY FINANCES	Passenger earnings						
	Upper class	12.85	27.64	53.04	59.67	66.71	74.46
	Lower class	94.86	191.53	461.09	561.98	606.06	664.35
	Other coaching earnings	20.87	39.40	89.42	91.31	91.47	98.69
	Goods earnings	180.28	465.49	1,150.27	1,382.94	1,305.41	1,440.44
	Other sundry earnings	6.81	22.25	50.04	53.99	69.15	71.52
	Total earnings	315.67	746.31	1,803.86	2,135.24	2,138.80	2,348.47
	Suspense ¹	+0.62	-12.74	36.85	-25.00	+12.24	-11.63
	Gross traffic receipts	316.29	733.57	1,767.01	2,110.24	2,151.04	2,337.84
	Ordinary working expenses	212.95	485.85	1,470.17	1,570.58	1,672.59	1,878.38
	Appropriation to depreciation reserve fund	45.00	85.00	115.00	140.00	145.00	200.00
	Appropriation to pension fund	—	12.00	24.25	39.35	49.20	64.00
	Payment to worked lines	0.27	0.19	0.20	0.21	0.18	0.16
	Total working expenses	258.22	583.04	1,609.62	1,828.30	1,867.55	2,142.54
	Net miscellaneous expenditure	7.73	15.69	20.36	24.12	22.67	31.83
	Net railway revenues	50.34	134.03	137.84	257.82	260.82	227.29
	Payment to General Revenues	36.12 ¹	116.28	198.14	225.32	224.16	293.53
	Net surplus(+) or deficit(—)	+14.22	+18.56	-61.11	+32.50	+36.66	-66.24
	Operating ratio (per cent)	81.6	97.5	91.1	86.6	87.5	91.50
	Capital-at-charge	968.98	2,680.32	4,354.78	4,900.58	5,023.92 ²	5,484.64

¹Dividend only.

²Excludes capital-at-charge of Metropolitan Transport projects (Rs 78.85 crores).

Staff Welfare

Several schemes are in operation for the welfare of the railway employees who numbered 15.5 lakhs in 1979-80 as against 9.1 lakhs in 1950-51. Among the important amenities are the provision of housing and medical facilities, holiday homes at hill stations and schools and hostels. Between 1951 and 1980 (31 March), about 4,69,500 residential units, 101 hospitals and 564 health centres were maintained for the staff. The number of holiday homes at hill stations and other places was 25.

Research and Training

The Research, Design and Standards Organisation (RDSO) was set up in 1957 for achieving self-sufficiency in the designing and manufacture of railway equipment. The RDSO was formed by the merger of the Central Standards Office and the Railway Testing and Research Centre. It has its headquarters at Lucknow with branches at Lonavala and Chittaranjan.

Over the years, the RDSO has helped the Railways in indigenous production in all fields of railway operations and has also made it possible for them to export a number of items of railway equipment. It has recently produced an all-aluminium overhead equipment for railway electrification, which is the first such equipment made entirely from aluminium in the world. In the field of locomotion, RDSO has successfully evolved a design to repower pack the imported metre gauge YDM—1 class locomotives and give them a new lease of life by utilising 700 HP diesel engines produced at Chittaranjan Locomotive Works.

The railways have four major training institutions. They are (i) Railway Staff College, Vadodara, (ii) Indian Railways Institute of Advanced Track Technology, Pune, (iii) Indian Railways Institute of Signal Engineering and Telecommunications, Secunderabad, and (iv) Indian Railways Institute of Mechanical and Electrical Engineering, Jamalpur. These institutions also train officials from foreign countries.

ROADS

The Indian road network is one of the largest in the world. The total road length comprising national highways, state highways and state PWD roads was 5,15,337 kms in 1978-79. The road development programme envisaged under the 1980-85 draft Plan lays emphasis on a co-ordinated and balanced development of road network in the country under (i) primary roads comprising national highways; (ii) secondary and feeder road system covering state highways and major district roads; and (iii) rural roads including village roads and other district roads. Substantial outlays are proposed for road development in the rural and the tribal areas.

Plan Expenditure

In the first three Plans and the three Annual Plans, a sum of Rs 1,134.86 crores was spent on road development. The Fourth Plan and Fifth Plan expenditure was Rs 826.94 crores and Rs 1,344 crores, respectively. The proposed outlay for road development as envisaged under the draft Plan 1980-85 for central sector is Rs 834 crores and for state sector Rs 2,609 crores.

In terms of area and population, the total road length in the country in 1978-79 worked out to about 48.8 km for every 100 sq km.

of area and 293 km for every one lakh of population. The surfaced road length was 18.9 km for every 100 sq km of area and 113.6 km for every one lakh of population.

National Highways

The central government is directly responsible for the national highways system. In 1947, approximately 2,500 km of roads, called missing road links, and thousands of culverts and bridges, which did not exist, were required to be constructed to have an integrated and continuous network. There was an increase in the missing road links owing to the addition of new roads to the national highways system in latter years. Up to 31 March 1980, missing road links including diversions constructed totalled 4,269 km and the number of major bridges constructed was 324. The present national highways system includes roads of a total length of 30,885 km. An outlay of Rs 660 crores has been provided in the draft Sixth Five Year Plan for the development of national highways.

State Sector Roads

State highways and district and rural roads are the responsibility of state governments and are maintained by various agencies in the states and union territories. Roads will be developed in rural areas under the Minimum Needs Programme, the objective being to link all villages with a population of 1,500 and above with all-weather roads during the Sixth Plan period.

The central government assists in the development of certain selected roads in the states.

The road length in the states and union territories in 1978-79 is given in Table 20.5.

Border Roads

The Border Roads Organisation (BRO) was created in 1960 to accelerate the economic development of the north and north-eastern border areas by making them accessible through the development of arterial routes. It is, perhaps, the largest single departmental undertaking of its kind anywhere for construction of roads.

The Organisation has provided an arterial net-work of roads in difficult and inhospitable border areas, scaled many heights and cut new pathways to progress. It has to its credit and in its present programme construction/improvement of over 17,000 kms of roads; and under its charge over 14,000 kms of roads for maintenance. Keeping the permanent strength of its employees to the minimum, it gives maximum gainful employment to the local labour.

BRO has steadily increased its area of operations from eight states/union territories in the early sixties to seventeen at present. In addition, it has diversified its activities into related areas of construction, such as hydel projects, irrigation schemes, airfields, coal-fields, hospitals and housing and residential complexes. The performance of its engineers and other personnel who have been deputed abroad under the aegis of the Indian Road Construction Corporation has received acclaim in the Middle East. Of late, several inquiries have been received seeking its help.

The Border Roads Organisation has constructed the world's highest road from Manali in Himachal Pradesh to Leh in Kashmir. The average altitude of the terrain is 4,270 metres and the road negotiates four passes at heights ranging from 4,875 to 5,458 metres.

The total length of national highways, state highways and other state PWD roads in India was 5,15,337 kilometres (both surfaced and unsurfaced roads) in 1978-79. The state-wise break-up of length of roads is as follows :

TABLE 20.5
LENGTH OF
ROADS IN
INDIA
(1978-79)

				(Kilometres)
State/Union Territory		Surfaced Roads	Unsurfaced Roads	Total
Andhra Pradesh		25,929	2,056	27,985
Assam		5,831	17,213	23,044
Bihar		16,629	653	17,282
Gujarat		11,850	867	12,717
Haryana		16,557	1,947	18,504
Himachal Pradesh		3,647	11,774	15,421
Jammu and Kashmir		6,257	2,525	8,782
Karnataka		48,863	15,512	64,375
Kerala		14,122	2,865	15,987
Madhya Pradesh		44,292	14,396	58,688
Maharashtra		25,302	7,429	32,731
Manipur		1,429	2,985	4,414
Meghalaya		1,337	1,977	3,314
Nagaland		1,308	3,177	4,485
Orissa		11,813	5,948	17,761
Punjab		30,849	—	30,849
Rajasthan		29,116	10,361	39,747
Sikkim		969	24	993
Tamil Nadu		33,075	1,588	34,663
Tripura		1,093	3,166	4,259
Uttar Pradesh		38,856	13,627	52,483
West Bengal		14,472	1,949	16,421
Andaman and Nicobar Islands		550	26	576
Arunachal Pradesh		2,328	1,388	3,708
Chandigarh		26	—	26
Dadra and Nagar Haveli		178	34	212
Delhi		300	—	300
Goa, Daman and Diu		2,023	1,326	3,349
Lakshadweep		—	—	—
Mizoram		8	876	884
Pondicherry		377	—	377
Total		3,89,386	1,25,951	5,15,337

Road Research

The Central Road Research Institute, New Delhi, was set up in 1952 for conducting research on road engineering under the administrative control of the Council of Scientific and Industrial Research. From 1 April 1978 to 31 January 1981, it was under the administrative control of the Ministry of Shipping and Transport. It was again transferred to CSIR with effect from 1 February 1981. Grants to the institute are given to enable it to carry on research programme relating to various problems of roads. For the promotion and coordination of road

research at the national level, a Highway Research Board was set up in 1973 under the auspices of the Indian Roads Congress. The Roads Wing of the Union Ministry of Shipping and Transport, among other things, prepares standards, specifications and type designs for the different aspects of roads and bridges, and promotes application of new techniques in the construction of roads and bridges. It has also launched a programme of road research on problems of immediate national importance.

- | | |
|--|--|
| Road Transport
Motor Vehicles | The total number of motor vehicles on roads as on 31 March 1979 was 36.96 lakhs, about sixteen times higher than that of 1947. These included 16.78 lakh two wheelers, i.e., motor cycles and scooters, 8.42 lakh cars and jeeps, 2.37 lakh buses including three wheeler passenger vehicles, 0.83 lakh taxis, 4.40 lakh trucks including three wheeler goods tempos, 2.71 lakh tractors, 1.15 lakh trailers and 0.30 lakh others not clarified. The state-wise break-up of motor vehicles is given in table 20.6. |
| Nationalisation
of Road
Transport | Most of the states and union territories have nationalised passenger transport in varying degrees. In the country as a whole, 55.5 per cent (estimated) buses were being run by the public sector undertakings as on 31 March 1979. Statutory Corporations have been set up under the Road Transport Corporations Act, 1950 in several states. In other states, the nationalised services are operated by departmental or municipal corporations or registered companies. In most of the big cities, bus services are state-owned. Goods transport continues to be almost exclusively in the private sector. |
| National Permits
Scheme | For removal of constraints on the movement of goods by road transport, a scheme of national permits for public carriers was introduced in 1975. Under the scheme, the central government has specified the number of national permits each state or union territory can issue. The maximum number of permits to be issued initially was fixed at 5,300 which was raised to 8,300 in 1979 and has now increased to 16,600. So far, about 7,700 national transport permits have been issued. |
| Zonal Permit
Schemes | For the implementation of the zonal permit schemes, reciprocal agreements are concluded between various participating states forming a zone. The deliberations and the agreements are done under the auspices of ISTC. The agreements are revised/reviewed as and when considered necessary. It has been decided to increase the quota of composite permits under various zonal schemes by 50 per cent. It is proposed to enforce the revised agreements from 1 April 1981. |
| Passenger Vehicles | Passenger vehicles fleet in the public sector, during the last 10 years, has increased to over 69,478 in 1980 from 35,193 in 1970. Lately, there has been persistent demand for more and more services particularly in metropolitan cities. About 2.95 crore commuters are carried every day by the state transport undertakings which employ about 4.62 lakh persons. |
| Transport Bodies | To ensure co-ordination between the central and state policies and operation of the different modes of transport, the Government of |

India has set up a Transport Development Council. The Inter-State Transport Commission is responsible for the development, coordination and regulation of road transport services on inter-state routes. As a result of the efforts made by the Commission, almost all the states and union territories now have reciprocal arrangements for operation of goods and passenger services on inter-state routes. They have introduced zonal permit schemes for the unhindered movement of a limited number of public goods carriers over the national and state highways on payment of tax at a single point.

An Association of State Road Transport Undertakings, set up in 1963, co-ordinates the activities of 46 state undertakings and helps secure procedural uniformity, higher standards of service and economic operation.

Revenue

During 1977-78, different motor vehicles together yielded revenue of Rs 1,580.48 crores as against Rs 1,542.16 crores in 1976-77. Of this, the Centre's share was Rs 998.94 crores and that of states Rs 581.54 crores. Maharashtra got the maximum revenue from road and goods taxes followed by Uttar Pradesh and Gujarat. The sources of revenue of the Centre were: import duty on motor vehicles and accessories (Rs 39.32 crores), excise duty on motor vehicles and accessories (Rs 91.80 crores), excise duty on tyres and tubes (Rs 127.00 crores), import duty on tyres and tubes (Rs 0.95 crores), import duty on motor fuel (Rs 30.62 crores), excise duty on motor fuel (Rs 709.61 crores). States revenue consisted of motor vehicles taxes and fees (Rs 264.03 crores), sales tax on motor fuel (Rs 114.01 crores) and passenger and goods taxes (Rs 203.50 crores).

INLAND WATERWAYS

India has about 5,200 km of major rivers, which are navigable by mechanised craft, but only 1,700 km are actually utilised. As regards canals, the available length is 4,300 km but only a length of 485 km is suitable for mechanised craft, of which only 331 km are being actually utilised.

Important among the navigable rivers are the Ganga and Brahmaputra and their tributaries; the Godavari, Krishna, Mahanadi, Narmada and Tapti and their canals; the backwaters and the canals of Kerala, the Buckingham canal in Andhra Pradesh and Tamil Nadu and the Cumbarjua canal connecting Mandovi and Zuvari rivers in Goa.

Inland-water transport is a state subject. The development schemes are mostly taken up by the states as centrally sponsored schemes.

The Fourth Plan expenditure on inland waterways was about Rs 11 crores as against the outlay of Rs 12 crores. A provision of Rs 24.92 crores for central and state sectors was made in the Fifth Plan for the development of inland waterways. The actual expenditure for the four years of Plan (1974-78) was Rs. 9.87 crores.

In the Five Year Plan 1978-83, a provision of Rs 2 crores was made for central and centrally sponsored schemes. An expenditure of Rs 4.21 crores was incurred against this provision during the years 1978-79 and 1979-80. For the Annual Plan 1980-81, a provision of Rs 10 crores has been made for central and centrally sponsored schemes. For the Sixth Five Year Plan (1980-85), a provision of

TABLE 20.6

DIFFERENT TYPES OF MOTOR VEHICLES ON ROAD

(As on 31 March 1979)

State/Union Territory	All Vehicles	Two Wheelers	Three Wheelers		Cars	Jeeps	Taxis	Buses	Trucks	Tractors	Trailers	Others
			Passenger	Goods								
1	2	3	4	5	6	7	8	9	10	11	12	13
Andhra Pradesh	2,32,098	1,21,929	8,209	631	26,846	7,796	2,892	8,670	35,615	10,736	6,988	1,786
Assam (As on 31-12-77)	66,615	10,717	654	(a)	21,635	(b)	1,405	3,508	13,387	4,629	4,485	6,195
Bihar (As on 31-3-78)	1,41,493	57,231	2,461	(b)	24,383	9,893	3,234	6,722	21,184	9,109	5,801	1,487
Gujarat	2,99,010	1,69,394	21,315	4,172	33,819	5,790	1,392	8,612	23,797	18,252	12,048	419
Haryana (As on 31-3-77)	62,019	24,096	1,074	541	5,295	1,782	155	2,268	9,922	15,955	848	83
Himachal Pradesh (As on 31-3-77)	18,503	5,568	—	—	2,053	2,169	101	1,961	4,951	1,020	—	680
J & K (As on 31-3-77)	22,662	9,211	64	296	3,212	1,809	1,136	1,946	4,075	754	45	14
Karnataka (As on 31-12-77)	3,39,708	1,75,276	12,396	879	57,093	11,669	2,663	11,024	29,535	16,047	15,354	2,767
Kerala	1,54,194	43,686	5,715	565	50,119	6,921	15,195	8,378	17,990	3,844	242	1,539
Madhya Pradesh (As on 31-3-74)	1,11,016	49,887	3,128	(b)	17,615	3,490	—	4,484	17,461	8,022	1,750	5,079
Maharashtra	6,80,745	2,77,063	20,588	16,073	1,87,118	20,600	20,199	15,681	78,697	18,916	17,737	2,073
Manipur (As on 31-3-78)	8,062	2,134	132	—	807	1,838	2	808	1,964	164	174	39
Meghalaya	—	—	—	—	—	—	—	—	—	—	—	—
Nagaland	4,957	991	148	—	589	1,545	70	365	1,148	34	—	—
Orissa	52,818	26,387	373	239	6,467	5,124	362	1,507	9,581	1,211	928	639
Punjab	2,76,748	1,14,439	2,827	1,868	21,204	4,059	1,167	4,818	13,371	89,468	22,655	872
Rajasthan	1,67,238	77,281	3,858	180	11,009	13,744	358	7,339	16,173	28,110	8,659	527
Sikkim	—	—	—	—	—	—	—	—	—	—	—	—
Tamil Nadu	2,54,453	1,19,628	6,308	1,238	58,631	3,186	9,239	11,158	27,423	9,320	7,818	504
Tripura	7,326	1,317	105	—	1,707	498	340	433	2,290	49	509	78
Uttar Pradesh	3,06,732	1,79,247	2,332	1,340	37,899	8,132	2,747	13,078	27,545	25,077	7,954	1,381

1	2	3	4	5	6	7	8	9	10	11	13
West Bengal											
(As on 31-3-76)	2,04,180	44,813	811	446	81,393	7,797	10,231	8,521	37,105	9,060	3,199
A & N Islands	1,988	922	1	—	113	213	53	67	430	79	84
Andhra Pradesh	359	68	—	—	18	91	2	13	145	—	22
(As on 31-3-74)											
Chandigarh	23,679	16,365	1,075	118	4,500	150	120	107	675	565	—
(As on 31-12-75)											
Dadra & Nagar Haveli	510	253	—	4	124	24	—	—	57	31	3
Delhi (e)	2,18,689	1,28,913	11,471	—	60,463	—	2,984	428	10,640	—	—
Goa, Daman & Diu	28,751	15,567	256	1	5,912	(b)	39	797	5,142	237	—
Lakshadweep	—	—	—	—	—	—	—	—	—	—	—
Mizoram	2,003	68	—	—	124	910	—	27	652	(c)	222
(As on 30-6-75)											
Pondicherry	9,812	5,609	38	3	2,363	84	108	155	655	389	151
(As on 30-9-77)											
All India											
Total	36,96,368	16,78,142	1,10,339	28,594	7,22,511	1,19,414	82,999	1,26,671	4,11,610	2,71,032	29,835

(a) Included in passengers under three wheelers.

(b) Included in cars.

(c) Included in others.

(d) Except Purulia RTO for which the latest available data for the period 30-9-1975 have been given.

(e) Taxed vehicles only.

Rs 45.00 crores has been made for the development of inland water transport.

Inland Water Transport Bodies

The Central Inland Water Transport Board, New Delhi, formulates policy for the development of inland water transport in the country. The Inland Water Transport Directorate of the Union Ministry of Shipping and Transport gives technical advice to the states, which are responsible for the development of inland waterways.

The states of Andhra Pradesh, Assam, Karnataka, Kerala, Madhya Pradesh, Orissa, Uttar Pradesh and West Bengal and the union territory of Goa, Daman and Diu have set inland water transport organisations to formulate and implement schemes for development of inland waterways.

CIWTC

The Central Inland Water Transport Corporation, set up in 1967 at Calcutta, operates the river services carrying goods between Calcutta and Assam *via* Bangladesh and also between India and Bangladesh. It is also operating river services between Calcutta and Farakka and river-cum-road service between Calcutta and Cachar. Its other activities include ship-building and ship repairing; stevedoring and clearing agency at Calcutta and dredging on the Bhagirathi river.

SHIPPING

India has the largest merchant shipping fleet among the developing countries, and ranks fifteenth in the world in shipping tonnage.

As compared to 1.92 lakh GRT at the time of independence, the country's operative tonnage on 31 March 1980 was 56.76 lakh GRT. Public sector undertakings of the central government own 30.94 lakh GRT, *i.e.*, 54.5 per cent of the total GRT.

Shipping Bodies

The National Shipping Board, which was reconstituted with effect from 25 July 1977, advises the government on shipping matters. The Technical Review Committee in the Union Ministry of Shipping and Transport advises on the steps to be taken to ensure proper coordination of shipping arrangements for government owned/controlled cargoes and to utilize Indian tonnage to the maximum extent possible. The All India Shipping Council is concerned with negotiation on freight and shipping problems with shipping companies and conferences. The Indian National Shipowners' Association promotes the interests of national shipping, ship-building and other allied industries.

Shipping Companies

There are 63 shipping companies in the country of which 19 are engaged exclusively in the coastal trade, 35 in overseas trade and the rest of 9 both in coastal and overseas trade. Both the central government shipping companies, *viz.*, Shipping Corporation of India (SCI) and the Mogul Line Limited carry on both the coastal and overseas trade.

The SCI, which is one of the biggest shipping lines of the world, has a merchant fleet of 144 vessels with 29.03 lakh GRT and operates on almost all the important maritime routes. During 1978-79, the SCI had freight earnings of Rs 291.25 crores. The tonnage of SCI accounts for more than 51 per cent of the total Indian tonnage.

The Mogul Line Limited mainly carries Haj pilgrims from Bombay to Jeddah (Saudi Arabia) and back. It also operates passenger vessels on the Konkan coast and liner service to Red Sea and West Asia Gulf ports. Its fleet consists of 16 vessels with a total GRT of 1.92 lakhs.

The major private sector shipping companies which own one lakh or more GRT are the Scindia Steam Navigation Company Limited (5.75 lakh GRT), Great Eastern Shipping Company Limited (3.71 lakh GRT), India Steamship Company Limited (2.04 lakh GRT), South India Shipping Corporation Limited (1.51 lakh GRT), Damodar Bulk Carriers Limited (1.61 lakh GRT), Chowgule Steamships Ltd. (1.60 lakh GRT) and Dempo Steamships Ltd. (1.69 lakh GRT).

The cargo carried by Indian ships in the country's overseas trade was 2.56 crore tonnes in 1978-79 amounting to over 39.5 per cent of the country's trade. Almost all the coastal trade is carried by national vessels. With the progressive normalisation with Pakistan and China, trade with these countries has been resumed and our ships have started calling at their ports. India has taken a formal decision to ratify the UN Code of Conduct for Liner Conference which was signed by India in June 1975.

Training Institutions

There are six training establishments for merchant navy officers and ratings. T. S. Rajendra at Bombay imparts pre-sea training to navigation cadets. The Lal Bahadur Shastri Nautical and Engineering College, Bombay, conducts post-sea instructional courses in navigation and engineering. The Directorate of Marine Engineering Training at Bombay and Calcutta imparts training to marine engineering cadets. 'Bhadra' at Calcutta, 'Mekhela' at Visakhapatnam and 'Navlakshi' at Navlakshi provide pre-sea training for deck and engineering ratings and Bhandaris.

Indian Register of Shipping

India established in March 1975 its own register of shipping to survey, classify and register its ships. The register has made steady progress. 206 ships aggregating 25 lakh GRT, consisting of 167 dual class and 39 single class ships, were on its register as on 1 January 1981. It also undertakes industrial services in the field of inspection and certification of land based plant and equipment in accordance with the purchasers' certification. It has also been authorised to issue cargo ships with safety construction certificates.

Ship-building

India has four major ship-building yards, viz., Cochin Shipyard at Cochin, Hindustan Shipyard at Visakhapatnam, Garden Reach Ship Builders and Engineers at Calcutta and Mazagon Dock at Bombay. All these shipyards are in the public sector.

There are at present 15 major repair dry docks—6 at Bombay, 6 at Calcutta, two at Visakhapatnam and one at Cochin. One more is under construction at Cochin. Although most of these dry docks can accommodate ships of only less than 10,000 DWT, one dock at Bombay can take ships up to 20,000 DWT and one at Hindustan Shipyard at Visakhapatnam, bulk carriers up to 70,000 DWT. During 1978-79, foreign exchange outgo for ship repairs on the Indian ships in foreign ports was Rs 19.73 crores.

Hindustan Shipyard	The Hindustan Shipyard has built 80 ships since 1947. Its present annual production capacity is about 3 ships of 21,500 DWT each year. Apart from a dry dock, which is in operation since 1971, the West Basin Project has also been partially commissioned for ship repair work. The total value of production including ship repairs during 1979-80 was about Rs 31.33 crores as against Rs 26.80 crores during the previous year.
Garden Reach Workshop	The Garden Reach Ship Builders and Engineers build tugs, barges, dredgers and coasters. They have now a capacity to build ocean-going merchant ships of 15,000—26,000 DWT every year. They had a record production of Rs 53.30 crores during 1977-78. During 1979-80, its production was Rs 39.41 crores.
Mazagon Dock	The Mazagon Dock which primarily constructs ships for the Navy, is also capable of building cargo ships, passenger ships, cargo-cum-passenger ships, and dredgers. Its subsidiary, the Goa Shipyard Limited, builds launches and tugs and also undertakes ship repairing. The Mazagon Dock had a record production of Rs 56.98 crores during 1979-80.
Cochin Shipyard	This shipyard set up with the Japanese collaboration is designed to have a dock for building ships up to 85,000 DWT and a repair dock to accommodate ships up to one lakh DWT. The work on ship-building has already commenced and the first vessel of 75,000 DWT for the Shipping Corporation of India is expected to be delivered in 1981. Its production was Rs 10.27 crores during 1979-80 as compared to Rs 6.71 crores during 1978-79.
PORTS	Indian ports comprise 10 major ports and 160 minor ports scattered all along the coast line of about 6,000 kms. Major ports are the direct constitutional responsibility of the central government in the Ministry of Shipping and Transport while minor ports figure in the concurrent list in the Constitution and are managed by the respective state governments.
Major Ports	The major ports on the west coast of India are Bombay, Kandla, Mormugao, New Mangalore and Cochin while those on the east coast are Tuticorin, Madras, Visakhapatnam, Paradip, Calcutta and Haldia. Among the major ports, Bombay is the biggest. It is a natural harbour. It handles about one-fifth of the total traffic at the ports, bulk of which consists of petroleum products and dry cargo. Kandla is a tidal port having a free trade zone. It handles traffic consisting of mainly petroleum products and fertilizers. Of late, foodgrains, cotton, cement and edible oils are also being handled. Mormugao port enjoys the second position in the total traffic tonnage, bulk of which is export of iron ore. Facilities for export of Kudremukh iron ore have been developed at New Mangalore port. The other traffic handled at this port are fertilizers and petroleum products, granite stones and dry cargo. Cochin is a natural harbour. The traffic handled at this port consists of mainly petroleum products, fertilizers and general cargo. Tuticorin port handles mainly salt, coal, oil and dry cargo. Madras is one of the oldest ports on the east coast. It handles largest volume of traffic in general cargo next to Bombay and Calcutta including Haldia. The traffic handled at this port consists mainly of petroleum products,

iron ore and dry cargo. Visakhapatnam is the deepest land locked and protected port where an outer harbour has been developed for exporting mainly iron ore to Japan. The other traffic handled at this port mainly consists of oil, coal and dry cargo. Paradip port mainly handles iron ore and some quantities of coal and dry cargo. Calcutta is a riverine port handling diversified commodities. A new mechanised dock system at Haldia with provision for deep draft vessels down stream of Calcutta supplements the facilities already available at Calcutta port. Haldia has a fully equipped containerised berth. The traffic handled at this port consists of mainly petroleum products and dry cargo.

The traffic handled by the major ports during 1974-75 to 1979-80 was as follows :

		(in '000 tonnes)					
		1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Overseas.	.	57,038	57,489	60,262	55,116	60,886	67,669
Coastal .	.	8,702	7,426	7,483	10,134	9,373	9,982

The expenditure incurred on the development of major ports up to the end of Fifth Five Year Plan, i.e., 1978 (the Plan being terminated one year in advance) was Rs 414.35 crores. The expenditure incurred on the development of major ports during the Sixth Plan period, i.e., 1980-81 so far is Rs 70 crores. The total provision for the Sixth Plan is about Rs 530 crores. For 1981-82, an outlay of Rs 100 crores has been made.

Minor and Intermediate Ports

Even though the management of the minor ports vests in the state government, legislation relating to and coordination of the development of minor ports is the responsibility of the central government. The central government gives loans and provides technical advice to state governments.

Allocations for the development of minor ports are made in the respective maritime States' plans. However, the development of ports in Andaman and Nicobar Islands and Lakshadweep is the direct responsibility of the central government and a sum of Rs 20 crores has been provided for this purpose in the 1980-85 plan.

National Harbour Board

The National Harbour Board was set up in 1950 to advise the central and state governments on the management and development of ports, particularly minor ports. It consists of representatives of the maritime states, the central ministries, concerned port authorities and non-official members representing Parliament, shipping, trade, industry and harbour.

Dredging Corporation of India

With the development of expertise, the Government of India set up the Dredging Corporation of India to undertake capital and maintenance dredging at the ports, in addition to the ports arrangements as also development of ports and port management in other countries. The Corporation has a fleet of 8 dredgers and other ancillary craft. During 1980-81, the Corporation completed the capital dredging project at Mangalore and at the naval dockyard at Visakhapatnam. The Corporation got in 1977 a contract for the management of a port in Saudi Arabia. It earned a profit of Rs 4.85 crores in 1978-79.

Navigational Aids

The central government looks after the general navigational aids while the states, port trusts and other agencies are responsible for the local

aids. However, under the Indian Lighthouse Act, 1927, the central government exercises general control over all aids through the Department of Lighthouses and Lightships. The Department maintains various navigational aids along the coast of India besides launches and VHF wireless sets. There are, among others, 139 lighthouses, 20 light-buoys, 13 fog signals, 10 radio beacons, twelve decca navigator chain stations, one light vessel, 10 radars and 5 racons. In the Sixth Five Year Plan, Rs 12 crores have been provided both for spill over and new schemes.

CIVIL AVIATION

On 31 December 1980, there were 671 aircraft with current certificates of registration and 266 with current certificates of air-worthiness. During 1979, Indian aircraft flew, on scheduled services, 8.22 crore kilometres, carried 65.58 lakhs of passengers and 1,14,354 tonnes of cargo and mail as against 7.98 crore kilometres, 60.36 lakh passengers and 1,04,636 tonnes of cargo and mail respectively in 1978.

Directorate of Civil Aviation

The Directorate General of Civil Aviation operates the civil airports in India except the international airports. It is also responsible for the air navigation services which include air traffic control and services for safety and regularity of aircraft operations.

IAAI

The International Airports Authority of India (IAAI) was set up in 1972 for the operation, management, planning and development of four international airports. The Authority also develops and provides consultancy services in relation to planning and development of airports in India and abroad. It has in hand several foreign projects.

Airports

There are four international airports and 85 other aerodromes in the country. The international airports are : Bombay (Santa Cruz), Calcutta (Dum Dum), Delhi (Palam) and Madras (Meenambakkam). The aerodromes maintained by the Civil Aviation department as on 31 December 1980 are :

Major Aerodromes : Agartala, Ahmedabad, Amritsar, Aurangabad, Barapani, Bhubaneswar, Bhub, Gauhati, Hyderabad, Imphal (Tulihal), Jaipur, Khajuraho, Lucknow, Mangalore, Nagpur, Panagarh, Patna, Ranchi, Trivandrum, Tiruchirappalli, Udaipur and Varanasi.

Intermediate Aerodromes : Belgaum, Bhopal, Bhavnagar, Chakulia, Dibrugarh Mohambari, Gaya, Indore, Jabalpur, Kandla, Keshod, North Lakhimpur, Port Blair, Raipur, Rajkot, Silchar, Tirupati, Vadodara, Vijayawada and Visakhapatnam.

Minor Aerodromes : Akola, Balurghat, Bilaspur, Behala, Cooch-Behar, Cuddapah, Delhi (Safdarjung), Hassan, Hadapsar (Gliderdrome, Pune), Jharsuguda, Juhu (Bombay), Kanpur, Khandwa, Khowal, Kailashahar, Kamalpur, Kota, Kulu (Bhuntar), Jhansi, Jogbani, Kolhapur, Donakonda, Lalitpur, Malda, Muzaffarpur, Mysore, Nadirgul (Gliderdrome), Panna, Palanpur (Dessa), Porbandar, Pantnagar, Passighat, Rajamundry, Raxaul, Rupsi, Satna, Shella, Sholapur, Tanjore, Vellore, Warangal and Ramnad.

In addition there are many aerodromes controlled/owned/maintained by Ministry of Defence, state governments public undertakings and private individuals and bodies.

Air Services

The scheduled air services are run by two public sector corporations, Indian Airlines and Air-India, both of which were formed in 1953. The Indian Airlines provides air services within the country, linking up most of the principal industrial and tourist centres, and also neighbouring countries, such as Bangladesh, Nepal, Afghanistan, Pakistan, Maldives and Sri Lanka. During 1979, it carried 54,10,126 passengers and covered over 40.68 crore revenue tonne kilometres. Its operational fleet at present consists of 6 Airbus A-300, 13 Boeing-737, 8 Fokker Friendship and 15 HS-748.

Air-India provides services to/through 34 countries. During 1979, it carried 11,47,659 passengers and flew about 78.97 crore tonne kilometres. Its fleet consists of 9 Boeing-707 and 8 Boeing-747 (Jumbo Jets).

Air Transport Agreements

India has air transport agreements with Afghanistan, Australia, Bangladesh, Belgium, Burma, Czechoslovakia, Egypt, Ethiopia, Federal Republic of Germany, Fiji, France, Ghana, Hungary, Indonesia, Iraq, Iran, Italy, Japan, Kenya, Kuwait, Lebanon, Malaysia, Mauritius, Republic of Maldives, Nepal, Netherlands, Nigeria, Poland, Pakistan, Philippines, Saudi Arabia, Seychelles, Singapore, Sri Lanka, Sweden, Switzerland, Syria, Thailand, UK, USA, Yemen Peoples' Democratic Republic, Zambia, Tanzania, Yemen Arab Republic (North Yemen) and Gulf countries.

Flying Clubs and Gliding Centres

There are 25 subsidised flying clubs/flying training institutes with headquarters at Amritsar, Banasthali, Bangalore, Bhubaneswar, Bombay, Calcutta, Coimbatore, Gauhati, Hissar, Hyderabad, Indore, Jaipur, Jamshedpur, Jullundur Cantt., Karnal, Lucknow, Ludhiana, Madras, Nagpur, New Delhi, Patiala, Patna, Raipur, Trivandrum and Vadodara.

There is one departmental gliding centre at Pune and 14 subsidised gliding clubs at Agra, Ahmedabad, Amritsar, Deolali, Hissar, Jaipur, Jullundur, Kanpur, Ludhiana, New Delhi, Patiala, Patna, Pilani and Raipur.

Training Centres

The Civil Aviation Training Centre at Allahabad comprising an aerodrome school and a communications school trains air traffic controllers, radio operators and technicians. Ground training to pilot trainees is also provided.

TOURISM

In 1980, 8,00,150 tourists visited India as compared to 7,64,781 in 1979, an increase of 4.6 per cent. The foreign exchange earnings from tourism were estimated at Rs 482 crores in 1980 as against Rs 384 crores in the preceding year.

India's potential for tourism is as vast as it is varied. While the infrastructure at home is being strengthened, promotional activities are undertaken abroad to attract more tourists. With a view to diversifying tourist attractions, the Department of Tourism has taken up the development of beach and mountain resorts. A sum of Rs 30 crores has been provided for developing tourism in the Sixth Plan (1980-85).

A new approach to the planning of tourist infrastructural facilities has been given by introducing the concept of travel circuits whereby facilities would be developed at tourist centres falling along identified travel circuits.

In order to attract more tourists to India, the Department of Tourism undertakes extensive publicity in major tourist generating markets of the world through its 18 tourist offices, located in various parts of the world. In addition, 7 tourist promotion officers have also been posted at important vantage points.

Tourism Bodies

The Department of Tourism of the Union Ministry of Tourism and Civil Aviation has both promotional and organisational functions and works in close co-operation with the India Tourism Development Corporation. Several states and union territories have also set up tourism departments and offices.

The Department of Tourism has a chain of regional offices at home and abroad. Regional offices are functioning in Bombay and Delhi with sub-offices at Calcutta, Madras, Agra, Aurangabad, Cochin, Jaipur, Khajuraho and Varanasi. These offices work in close collaboration with state governments, travel agents, hoteliers and carriers. Abroad, India has tourist offices in New York, Los Angeles, Chicago, Toronto, London, Geneva, Paris, Frankfurt, Brussels, Stockholm, Milan, Vienna, Kuwait, Bangkok, Tokyo, Perth, Singapore and Sydney. In addition, tourist promotion offices are based at Dallas, Miami, San Francisco, Washington, Osaka, Melbourne and Tehran. The various tourist offices abroad are functioning under a scheme of close collaboration between the Department of Tourism and Air India for promotion of tourist traffic from the respective regions.

To meet the requirements of these offices, Department of Tourism produces tourist publicity literature in English, German, Spanish, French, Italian, Persian, Arabic, Japanese and Thai languages. In order to boost up domestic tourism, literature in Hindi is also produced. On an average, 40 to 50 lakh copies of tourist literature are produced for distribution in India and abroad. Similarly tourist offices maintain film and photo libraries on subjects of tourist interest.

Accommodation and Other Facilities

The Department has constructed forest lodges in the bird sanctuary at Bharatpur, and the wild life sanctuaries at Kaziranga, Sasangir and Jaldapara. The India Tourism Development Corporation is managing the forest lodges at Bharatpur, Kaziranga and Sasangir and the one at Jaldapara is being run by the Tourism Development Corporation, West Bengal.

In addition to the construction of forest lodges, the department has also provided facilities for viewing wild life, such as 4 boats at Bharatpur bird sanctuary, 4 elephants at Kaziranga, 5 elephants at Kanha, and 25 mini-buses have been distributed among 18 wild life sanctuaries in the country.

At present, there are 121 approved tourist car operators spread over 30 tourist centres and a number of approved tourist shops at important tourist centres. Apart from this, there are 155 officially registered travel agencies in the country and an increasing number of trained and approved tourist guides.

Incentives for Tourists

To promote tourist traffic, regulations relating to police registration, currency exchange controls, customs and visas have been liberalised. The validity of landing permits has been increased from 28 to 30 days. Tourists from many countries can now come to India without a visa on the basis of the landing permits.

Concessional tickets for domestic tourists are issued by the railways for round trip journeys and circular tours. Special concessions are given to students. Indrail Pass facilities are available for foreign tourists and Indian residents abroad against payment in US dollar and other convertible currencies. The scheme 'Discover India' for travel on IA domestic services in round circular trips with unlimited stop-overs en-route is available to all persons permanently residing outside India, including Indians. Foreign residents in India are also eligible if they pay in convertible currency.

ITDC

The India Tourism Development Corporation, set up in 1966, is the only multi-unit undertaking for the development of tourism in the country. It looks after the construction and management of hotels, motels and travellers' lodges, provision of transport facilities for tourists, production of tourist publicity and promotional material, provision of entertainment and management of duty free shops at international airports.

Presently, the Corporation has under its management 21 hotels—six in Delhi, and one each at Aurangabad, Bangalore, Calcutta, Hassan (Karnataka), Kovalam, Jammu, Khajuraho, Mahabalipuram, Jaipur, Mysore, Udaipur, Varanasi, Patna, Bhubaneswar and Madurai. It also arranges sound and light shows at Red Fort, Delhi; Sabarmati Ashram, Ahmedabad and Shalimar Gardens, Srinagar. In addition, it runs 12 travellers' lodges, 3 forest lodges, 15 restaurants, 17 transport units, 6 duty free shops at airports and one tax free shop at Ashok Hotel, New Delhi.

METEOROLOGY

Meteorological and weather services are provided by the India Meteorological Department which is one of the oldest scientific institutions in the country. It has its headquarters at New Delhi and a functional office at Pune responsible for climatology and forecasting services respectively. There are five regional meteorological centres at Bombay, Calcutta, Madras, Nagpur and New Delhi. The Calcutta unit compiles and publishes the 'Indian Ephemeris' and 'Air Almanac' in English and the 'Rashtriya Panchang' in English, Hindi and nine other Indian languages. Further in order to have a better coordination with the state governments, Meteorological Centres have been set up at Ahmedabad, Bangalore, Bhopal, Bhubaneswar, Gauhati, Hyderabad, Jaipur, Lucknow, Patna, Srinagar and Trivandrum. A meteorological centre at Chandigarh is to become operational shortly. The Trivandrum centre maintains liaison with the Thumba Equatorial Rocket Launching Station for meteorological rocket probes of the upper atmosphere.

The Department issues 'warnings' against heavy rainfall, strong winds and cyclonic weather for the general public and a number of private and public organisations including aviation, defence services, shipping, ports and fishing craft, mountaineering expeditions and agriculturists. Flood meteorological offices have been working at Ahmedabad, Bhubaneswar, New Delhi, Gauhati, Lucknow, Jalpaiguri, Patna and Hyderabad to give meteorological support to the flood forecasting organisation of the Central Water Commission. A new flood meteorological unit has started working at Asansol with effect from 3 April 1980.

There are separate directorates of the Department to deal with agricultural meteorology, meteorological training, weather analysis over the Indian Ocean and southern hemisphere, instruments, hydrometeorology, aviation services, seismology, radiometeorology, satellite meteorology and meteorological telecommunications.

- Cyclone Forecasts** Cyclone warnings to ports and ships are issued by Bombay, Calcutta, Visakhapatnam, Bhubaneswar and Madras offices. These are based on conventional meteorological observations from coastal and island observatories, ships in the Indian seas, coastal cyclone warning radars and cloud pictures received from weather satellites. Cyclone warning radar stations are located at Bombay, Goa, Calcutta, Madras, Karaikal, Paradeep and Visakhapatnam. A cyclone warning radar was expected to be installed at Machilipatnam in April 1981. Weather satellite pictures are received through Automatic Picture Transmission stations at Calcutta, Madras, Visakhapatnam, Bombay, Pune, New Delhi, Gauhati and Bhubaneswar. A cyclone warning and research centre at Madras investigates problems exclusively relating to tropical cyclones.
- Tourists' Meteorological Services** Tourism departments at the centre and the states have access to the records of the Meteorological Department for providing weather information of interest to tourists.
- Tourist meteorological offices are being set up in various parts of the country to issue weather forecasts for the tourists. One such centre has been set up at Gulmarg in Kashmir.
- Exchange of Data** Meteorological data are exchanged with many countries through high speed telecommunication facilities. As part of India's cooperation with the World Weather Watch Programme of the World Meteorological Organisation, a Regional Meteorological Centre and a Regional Telecommunication Hub function at New Delhi. An Area Forecast Centre is also located in New Delhi to exchange data with international airports.

21 COMMUNICATIONS

The history of modern postal system in India may be traced back to 1837 when postal services were thrown open to the public. The first postage stamp was issued in Karachi in 1852 though it was valid only in Sind. The postal department was set up in 1854 when about 700 post offices were already functioning in the country. The money order system was introduced in 1880. Five years later the postal savings bank scheme was put in operation. The railway mail service was started in 1907 and the air mail service in 1911.

Remarkable progress has since been made in communication services. Between 1951 and 1980, the number of post offices increased by nearly sixteen times; telegraph offices more than trebled and telephones increased more than sixteen times. The subscriber trunk dialing service, introduced in 1960, is now in operation in 198 cities. The overseas communication system connects India with almost all countries of the world.

The Posts and Telegraphs Board which provides the postal and telecommunication services is one of the largest employers in the country. The number of persons (including extra-departmental and industrial workers) employed by the Board as on 31 March 1980 was 8.11 lakhs.

For operational purposes, the country is divided into 15 telecommunication circles, 16 postal circles, 17 P&T civil circles, 5 P&T electrical circles, and 27 telephone districts. Apart from these, there are units for specific purposes. The Ministry of Communications through the Department of Posts and Telegraphs, also discharges certain agency functions. These are : collecting broadcast receiver licence fees, running post office savings banks, issuing national savings certificates and postal life insurance policies and selling units of the Unit Trust of India. It also sells application forms for examinations conducted by the Staff Selection Commission, Income-Tax forms and also passport application forms at the Head Post Offices in Delhi, Gujarat, Kerala, Maharashtra, North-Western and Tamil Nadu circles. In some of the metropolitan cities private car owners can also pay their vehicle tax through specified post offices.

POSTAL SERVICES

The number of post offices on 31 December 1980 was 1,38,726 including 1,24,333 in the rural areas. On an average, each post office served 4,000 persons and covered an area of 23.9 sq km.

The number of letter boxes on 31 December 1980 was 4,94,322, of which 4,20,663 were installed in the rural (including backward, hilly and tribal) areas. It is planned to cover all the census villages in the country (5,75,936) with letter boxes by the end of the Sixth Plan. Census villages covering 99.79 per cent had been provided with delivery of dak by 31 March 1979. The remaining villages are expected to be covered in the near future.

During the Sixth Plan (1980-85), the expansion of postal facilities in the rural areas of the country is to cover the following schemes :

(i) Opening of post offices including mobile post offices.	—	8,000
(ii) provision of postal counter facilities to villages through mobile post offices	—	10,000
(iii) installation of letter boxes.	—	10,000
(iv) appointment of rural agents for improving daily delivery service and clearance of letter boxes	—	10,000

Approximately 20 per cent of the above targets are proposed to be achieved annually.

Conveyance of Mail

The traffic mail, due to industrialisation and increase in population as well as rate of literacy, has increased enormously in the country. The mail is carried both by surface and air. For surface mail, various modes of conveyance such as rail, road, transport runners, boats, camels, horses and cycles are used. All the principal cities connected by air are served direct and other cities connected subsequently by surface.

Under the "all up scheme" all inland letters, letter cards, post cards, registered letters and money orders are normally carried by air without surcharge. The total weight of airmail originating from India for abroad and domestic mail within the country in 1979-80 was 137 lakh kg.

Quick Mail Service

A new scheme called Quick Mail Service, (QMS) was introduced in 1975. This covers all state capitals, headquarters of all union territories and important commercial towns. All unregistered articles bearing the postal index number of the destination and posted in special QMS letter boxes are covered by the scheme. Letters posted under this scheme are normally delivered the very next day. Within the states, the regional quick mail service connects most of the district headquarters to the state capitals. There are at present 45 national and 410 regional quick mail service centres in the country. They handle about 4 lakh articles daily.

Foreign Mail Arrangements

India is a member of the Universal Postal Union (UPU) since 1876. It has postal communication facilities with 160 countries of the world. Both surface and air routes are used to despatch and receive postal articles.

India is also a member of the Asian and Oceanic Postal Union (AOPU), a restricted postal union of 16 countries within the framework of UPU since 1973. India joined this Union to facilitate and improve the postal relations between the member countries of the region.

The frequency of air despatches varies from 2 to 7 a week depending on the quantum of mails and the availability of flights to the country concerned. India sends air mail despatches to 94 countries in the world. Frequency of surface despatches varies from daily despatches to the neighbouring countries to once a month and in a few cases to once a quarter or so, depending on the availability of sailings from Indian ports. India is having money order service with 36 countries which brought in during 1979-80 about Rs 8.83 crores in foreign exchange to the country.

Pin Code

For efficient and correct handling of the growing volume of mail, a numerical postal address code known as the Postal Index Number (PIN) was introduced in 1972. The code has six digits which helps to identify and locate every departmental delivery post office excluding branch post offices. The first digit indicates the region, the second digit the sub-region and the third digit indicates the sorting district whereas the last three digits indicate a particular delivery post office in the area served by the sorting district.

Table 21.1 gives important data relating to postal services in the country.

TABLE 21.1

POSTAL STATISTICS

	1950-51	1960-61	1970-71	1978-79	1979-80
Number of Post Offices					
Urban	5,284	7,326	10,224	13,728	14,160
Rural	30,810	69,513	98,835	1,17,260	1,22,839
Total	36,094	76,839	1,09,059	1,30,988	1,36,999
Postal Articles (crores)	22.700	402.90	645.74	838.96	899.81
Regd. Articles (crores)	8.02	11.66	18.28	23.11	23.27
Insured Articles (lakhs)	37.23	41.00	64.00	73.00	73.31
Money Orders (crores)	5.31	7.65	9.47	10.83	10.87
Value of Money Orders (Rs crores)	205.9	334.25	613.1	1,100.00	1,150.00
Postal Revenue (Rs crores)	21.22	40.78	110.54	239.22	259.22

Post Offices in
Backward Areas

Under the revised policy for opening of post offices in rural areas made effective from 28 August 1978, norms have been liberalised for opening of post offices in backward, hilly and tribal areas. Previously, relaxations were applicable only to backward and hilly areas. A post office can now be opened in a *gram panchayat* village if there is no other post office within three km. The proposed post office is expected to yield an income equal to at least 10 per cent of the estimated cost. In a non-*gram-panchayat* village, other conditions remaining the same, the population should not be less than 1,000.

In the Sixth Five Year Plan, it is proposed to open 8,000 post offices. Out of these 63 per cent are to be opened in backward hilly and tribal areas.

Post Office
Savings Bank

With over 1.36 lakh (as on 31 March 1980) post offices transacting saving bank business, the post office savings bank is the largest savings institution in the country. The post office savings bank runs all savings schemes and has currently in investment of more than Rs 6,826 crores as on 31 March 1980. Roughly 4/5 of the branches are located in rural areas.

The expansion of post office savings banks business since 1961 is shown in table 21.2.

TABLE 21.2

EXPANSION OF
POST OFFICE
SAVINGS BANK

As on 31 March	Savings bank		Cumulative time deposits		Saving certificates
	No. of depositors (lakhs)	Balance (Rs. crores)	No. of depositors (lakhs)	Balance (Rs. crores)	Balance (Rs. crores)
1961	92	431.40	3.98	2.65	456.92
1971	206	974.00	51.30	116.54	888.49
1975	278	1,265.91	41.91	165.81	899.80
1976	295	1,327.29	37.76	173.78	880.24
1977	251	1,302.31	31.19	195.42	909.78
1978	264	1,452.12	28.17	207.14	916.30
1979	268	1,694.58	31	237.51	1,124.62
1980	306	1,877.30	32	284.01	1,357.07

POSTAL
LIFE
INSURANCE

The number of postal life insurance policies in force as on 31 March 1980 was 7,31,734 for a total sum assured of Rs 394.91 crores. During 1979-80, nearly 1,08,975 new policies were issued for a sum assured of Rs 83.08 crores, which showed an increase of about 19.33 per cent over the previous year. The progress indicating the growing popularity of postal life insurance policies is shown in Table 21.3.

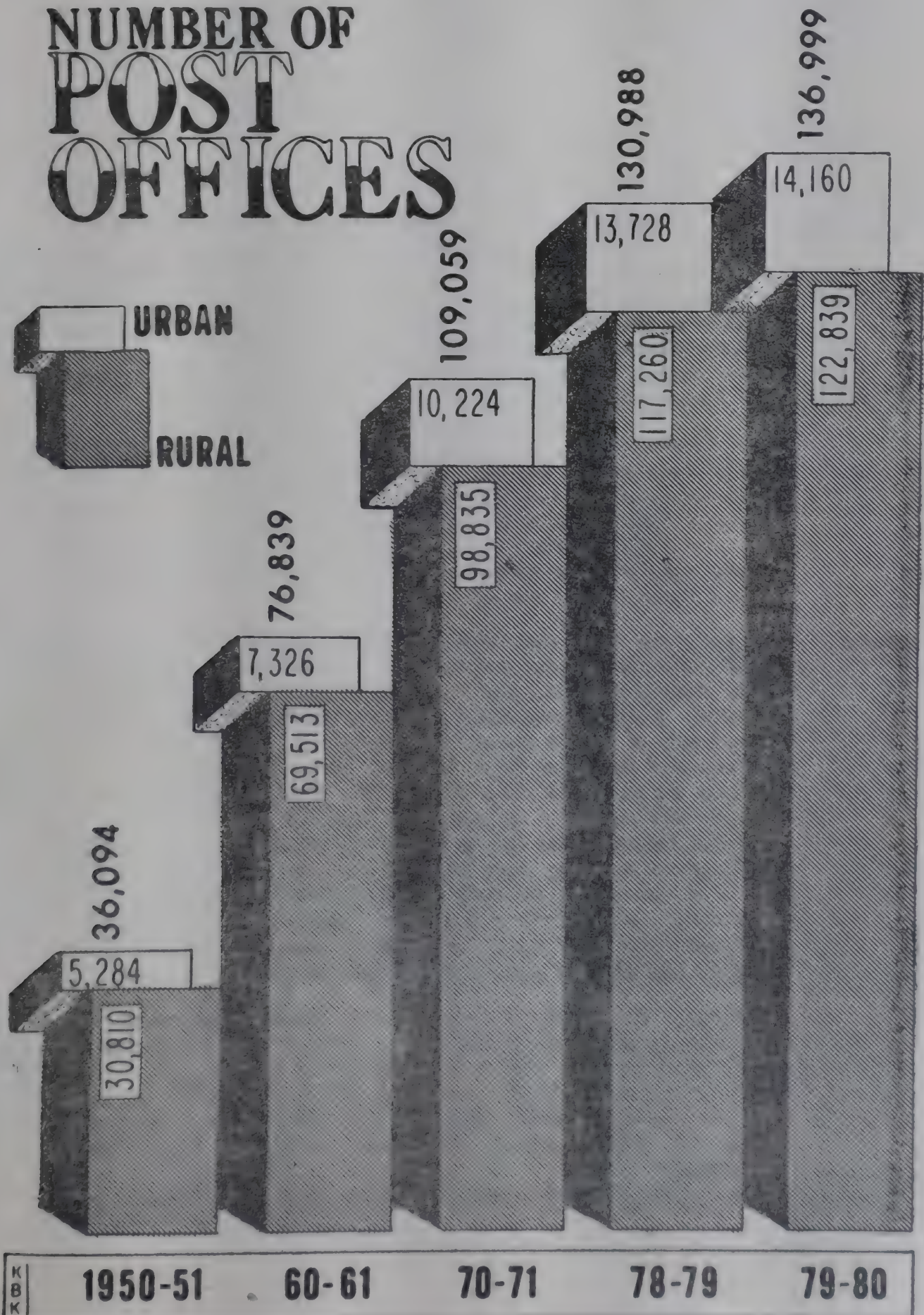


TABLE 21.3
GROWTH OF
POSTAL LIFE
INSURANCE
SCHEME

Year	New Business		Total business in force		Insu- rance Fund (Rs. crores)
	Number of policies	Sum assured (Rs. crores)	Number of policies	Sum assured (Rs. crores)	
1947-48	3,722	0.84	92,036	18.90	11.59
1957-58	8,146	1.85	1,45,534	34.22	13.67
1967-68	15,799	5.4	2,00,885	53.04	26.02
1974-75	36,440	18.0	3,40,446	119.09	45.05
1975-76	61,337	35.06	3,92,185	153.02	51.06
1976-77	72,780	42.00	4,54,447	192.04	59.03
1977-78	99,829	59.09	5,43,486	249.02	70.04
1978-79	1,01,997	69.93	6,34,444	315.04	84.03
1979-80	1,08,975	83.08	7,31,734	394.91	105.32

COMMEMORATIVE STAMPS

The Indian Posts and Telegraphs Department has been issuing special commemorative postage stamps since 1931 on eminent personalities and important events. Since the attainment of independence in 1947, Indian philately has made great strides. Indian stamps depict a wide range of themes relating to the life and culture of the Indian people their achievements in various fields, flora and fauna and also important national and international events. The stamps are popular both at home and abroad.

During 1980, many interesting events and famous personalities were featured on stamps. A set of two stamps was released to commemorate the 50th anniversary of Mahatma Gandhi's historic Dandi March. Sets of four stamps were brought out to commemorate the India International Philatelic Exhibition (India-80), which was held in New Delhi. Four stamps on the Brides of India were also issued during the year.

Exhibition

One of the most important means of promoting philately is by holding philatelic exhibitions periodically and encouraging Indian participation in international exhibitions. The Indian P & T Department participated in six international philatelic exhibitions abroad where display and sale of Indian stamps was arranged. At home the Department organised the third India National Philatelic Exhibition at Bangalore from 12 to 16 October 1977. The First Asian Philatelic Exhibition was also organised at Bangalore from 19 to 23 October, 1977. The India International Stamp Exhibition in collaboration with Philatelic Congress was organised from 25 January to 3 February 1980.

At present, a network of 30 philatelic bureaux and 139 philatelic counters are operating in different parts of the country. Besides, agents have been appointed in North America, Western Europe, Japan and Australia for sale of Indian stamps in these regions.

Indian Telegraphs is one of the oldest government-owned public utility organisations in the world. The first telegraph line was opened in 1851 between Calcutta and Diamond Harbour.

There were 29,337 telegraph offices (including licensed telegraph offices working under Railways and Canal Administrations) as on 31 March 1980. About 6.33 crores telegrams were booked during 1979-80.

During the Fifth Plan (1 April 1974 to 31 March 1978), 5,518

new telegraph offices were opened in the country. During the Sixth Plan period, it is proposed to open 15,000 more telegraph offices out of which about 3,000 are to be in tribal areas. During 1978-79, 3,851 combined (Telegraph) offices were opened in the country.

Hindustan Teleprinters Limited

The Hindustan Teleprinters Ltd., a public sector undertaking, was established at Madras in 1960 to manufacture teleprinters and ancillary equipment. During 1979-80, it produced 7,166 units of teleprinters and spares worth Rs 86 lakhs and sold equipment worth Rs 6.49 crores.

Telex Service

The national telex service was opened in 1963. The first Devanagari telex was inaugurated in New Delhi in 1969. With the commissioning of teleprinter exchanges at important cities, printed messages can be sent and received directly from one subscriber to another in any part of the country. Telex service was available between 117 cities on 31 March 1978. These cities had an installed capacity of 21,035 lines, with 16,449 working telex connections.

TELEPHONE SERVICES

India had a 50-line telephone exchange in Calcutta as early as 1881-82, five years after the invention of telephone by Graham Bell. The first telephone exchange with automatic lines was installed at Simla in 1913. At the time of independence, there were 321 exchanges and 86,000 telephones. It was after 1951, however, that telephone services made rapid progress. The number of telephone exchanges has increased by more than eleven times and that of telephones by more than fourteen times as shown in Table 21.4.

The first indigenously developed computer-controlled electronic telephone exchange in Delhi is under field trial.

(As on 1 April)

TABLE 21.4

Telephone STATISTICS

	1951	1961	1971	1978	1979	1980
No. of Telephone Exchanges	540	1,374	3,967	6,239	6,866	7,430
No. of Telephones (in lakhs)	1.68	4.63	13.00	23.01	24.24	26.15

The number of long distance public call offices was 13,426 on 31 March 1980. The number of trunk calls increased from 71 lakh in 1950-51 to 22.26 crores in 1979-80. The telephone revenue during the same period came to Rs 575.83 crores.

STD Service

The subscriber trunk dialling service (STD) was first introduced between Kanpur and Lucknow in 1960. Telephone subscribers in Delhi, Bombay, Calcutta and Madras can now dial London and other cities in UK, directly without the help of an operator.

Fully automatic telex subscriber dialing through SPC type electronic telex exchanges at Bombay and New Delhi is available to 48 countries of the world.

'On Demand' Trunk Service

The 'on demand' trunk service was introduced for the first time on Bombay-Bangalore route in 1971. Since then the service has been extended to 925 trunk routes in the country.

Ship-to-shore Service

Ship-to-shore service is available at Bombay, Calcutta and Madras, under which subscribers can have telephonic contacts with ships at sea within 750 km.

OYT Service

The 'own your telephone' scheme (OYT), introduced in 1949, now covers all the telephone systems in the country. The scheme which was suspended in July 1978 in the telephone districts of Bombay, Calcutta, Delhi and Ludhiana was revoked by the P&T Board and OYT registration was permitted from 2 June 1980.

A new scheme called "advance deposit scheme" was launched with effect from 1 September 1975. According to this scheme payment of advance deposit is necessary before a demand for the telephone connection can be registered. The amount of deposit varies from Rs 1000 to Rs 5,000 and is adjusted towards telephone charges as and when a telephone is sanctioned.

**Telephone
Manufacture**

The Indian Telephone Industries Ltd. (ITI), Bangalore, a public sector undertaking, was set up in 1948 to manufacture telecommunication equipment, including telephone instruments of various kinds, automatic exchanges, small electronic exchanges, microwave equipment and equipment for railway electrification. It has factories now at Bangalore, Naini, Rae Bareilly, Palghat and Srinagar.

During 1979-80, ITI manufactured 4.26 lakh telephone instruments, besides other equipment. The total sales of ITI during the period amounted to Rs 107.18 crores, including exports worth Rs 89 lakhs.

TCIL

The Telecommunications Consultants India Ltd. (TCIL), New Delhi, a public sector undertaking under the administrative control of the P&T Board, was set up in March 1978. It offers consultancy services in all the fields of telecommunications. During 1979-80, the company secured orders worth Rs 9.6 crores mostly from foreign countries.

**Telecommu-
nication
Factories**

Four departmental telecommunication factories, set up at Calcutta, Bombay, Jabalpur and Bhilai, functioning under the administrative control of the P&T Board, manufacture vital telecommunications equipment such as microwave towers, coin collecting boxes, pole line hardwares etc. During 1979-80, production increased to Rs. 18.27 crores as against Rs 16.61 crores in the preceding year.

**OVERSEAS
COMMUNICA-
TIONS**

India's external telecommunication services are operated by the overseas communications service (OCS) with its headquarters at Bombay.

The OCS operates through four international gateway centres located at Bombay, Calcutta, Madras and New Delhi and provides overseas telegraph, telephone, telex, radio-photo, leased telegraph and high speed data channel services in addition to international television service via the satellite medium. It also arranges broadcast transmission and reception facilities for the government and news agencies.

Almost 99 per cent of India's external telecommunications is handled by OCS via the INTELSAT satellite positioned over the Indian Ocean region by means of its two satellite earth stations at Arvi (established in 1971) and Dehra Dun (established in 1976).

Through a network of satellite and high frequency radio circuits, telephone, telex and telegraph service is provided to almost all parts of the world by direct or transit service. The OCS has direct telephone links with 40 countries, telex links with 38 countries and telegraph links with 32 countries. It now operates, as on 1 January 1981, 403 voice-grade circuits, 656 telex circuits and 31 telegraph circuits via satellite medium.

**Leased
Teleprinter
Channels**

The overseas communication service leases voice grade circuits for telephone/data and telegraph circuits for the exclusive uses of private subscribers. Several international airline companies, government departments, foreign embassies, banks, international business houses and news agencies are using these facilities. The OCS, as on 1 January 1981, has leased 7 voice grade circuits and 102 telegraph circuits including 11 for press bulletin service.

**Programme
Transmissions**

Facilities are provided on the overseas telephone system for the transmission and reception of programmes consisting of voicecasts by correspondents of broadcasting organisations for use on their broadcast networks.

Press Broadcasts

The overseas communication service provides multi-address teleprinter news broadcast transmissions, on behalf of the Ministry of External Affairs, simultaneously to 66 Indian Consular posts around the world.

The OCS also carries out reception of foreign radio teleprinter press broadcasts on behalf of news agencies.

**WIRELESS
PLANNING
AND
CO-ORDINA-
TION**

The Wireless Planning and Co-ordination Wing of the union Ministry of Communications is responsible for all matters concerning the International Telecommunications Union, Geneva, a specialised UN agency. It also functions as the radio regulatory authority for all radio usages in the country and in that capacity assigns radio frequencies and issues operating licences to all official and non-official wireless users. Cases of radio interference are investigated and resolved through national and, if necessary, through international co-ordination. Problems about frequency usages for satellite communication and other space systems are also co-ordinated both at national and international levels.

**Monitoring
Organisation**

The Monitoring Organisation of the Ministry of Communications has a network of monitoring stations set up for frequency management and implementation of radio regulations. Nineteen such station are functioning at Ahmedabad, Ajmer, Bangalore, Bombay, Calcutta, Darjeeling, Delhi, Dibrugarh, Goa, Gorakhpur, Hyderabad, Jullundur, Madras, Mangalore, Nagpur, Ranchi, Shillong, Srinagar and Trivandrum.

Three units have been set up at Delhi, Calcutta and Hyderabad, to investigate the quantum of man-made radio noise responsible for interference with radio communications and suggest counter measures.

Ten units have been set up at Ajmer, Bangalore, Bombay, Calcutta, Delhi, Hyderabad, Jullundur, Madras, Nagpur and Shillong for carrying out region-wise inspection of licensed and authorised stations to ensure that they conform to the terms and conditions of the licences.

22 LABOUR

The working population of India in 1971 was about 18.05 crores or 32.92 per cent of the total population of the country. Of which only ten per cent was in the organised sector and the rest in the traditional sector. Cultivators and agricultural labourers formed the bulk of the traditional workers—43.38 per cent and 26.32 per cent respectively.

Reliable data are, however, available only for the organised sector of India's economy. Most of the acts passed by the government for the welfare of workers relate to this sector. A number of social security schemes are also in operation for them. These include factory acts, wage acts and social security schemes like employees' state insurance, employees' provident funds, death relief and family pension for workers and their families. Some acts and rules have also been framed for the unorganised sector. The Minimum Wages Act, 1948 is also applicable to many categories of Workers in this sector.

In the organised sector of India's economy, the largest number of workers are employed in factories.¹ In 1978, the estimated average daily employment in working factories, for which figures are available, stood at 65.24 lakhs.²

According to the 1978 daily employment figures, Maharashtra had the largest number of factory workers (11,60,178) followed by West Bengal (8,69,676), Gujarat (5,88,620), Tamil Nadu (5,99,682) and Uttar Pradesh (5,32,659).

The average daily number of workers employed in all mines, in 1977 was 7,48,000 (3,05,000 below ground, 2,12,000 open-cast working, 2,31,000 above ground). The corresponding figures for coal mines covered by the Mines Act, 1952 for 1977 were 4,97,346 (2,76,762 below ground, 59,234 open-cast working and 1,61,350 above ground).

Table 22.1 gives the distribution of working population according to activity and sex.

WORKING CONDITIONS

Working conditions in factories are regulated by the Factories Act, 1948 which prescribes a 48-hour week for adult workers and forbids the employment of children under 14 in any factory. Minimum standards of lighting, ventilation, safety, health and welfare services which the employers must provide in their factories have also been laid down. Factories employing over 30 women workers are required to provide a creche for their children. Shelters, rest rooms and lunch rooms are to be provided by factories employing over 150 workers.

¹Under the Factories Act, 1948, a factory is defined as any premises including the precincts thereof where 10 or more workers are working or were working on any day of the preceding twelve months and in any part of which power is used for the manufacture. Where power is not used the number of workers should be 20 or more.

A worker is defined in the Act as a person, employed directly or through any agency whether for wages or not, to any manufacturing process, or in cleaning any part of the machinery or premises used for a manufacturing process or in any other kind of work incidental to or connected with the manufacturing process or the subject of the manufacturing process.

²Provision: 1

TABLE 22.1
DISTRIBUTION OF WORKING POPULATION (1971 CENSUS)
(In lakhs)

Category	Male		Female		Total	
	Number	Percentage share in total male population	Number	Percentage share in total female population	Number	Percentage share in total population
Total population	2,841	100.00	2,641	100.00	5,482	100.00
A. Total working population	1,492	52.51	313	11.86	1,805	32.92
(i) Cultivators	690	24.28	93	3.52	783	14.28
(ii) Agricultural labourers	317	11.16	158	5.97	475	8.67
(iii) Livestock, forestry, fishing, hunting and plantations, orchards and allied activities	35	1.24	8	0.30	43	0.78
(iv) Mining and quarrying	8	0.28	1	0.05	9	0.17
(v) (a) Household industry	50	1.77	13	0.50	64	1.16
(b) Other than household industry	99	3.47	9	0.33	107	1.95
(vi) Construction	20	0.71	2	0.08	22	0.04
(vii) Trade and commerce	95	3.34	6	0.21	101	1.83
(viii) Transport, storage and communications	43	1.50	1	0.06	44	0.80
(ix) Other services	135	4.76	22	0.84	158	2.88
Non-working population	1,349	47.49	2,328	88.14	3,677	67.08

TABLE 22.2
AVERAGE PER CAPITA ANNUAL EARNINGS OF FACTORY WORKERS

(In rupees)

State/Union Territory	1961	1966	1971	1972	1973	1974	1975	1976 ¹	1977 ¹	1981 ¹
Andhra Pradesh	1,149	1,454	2,339	2,430	2,792	2,521	2,824	3,731	3,657	3,623
Assam	1,599	2,130	2,484	2,481	2,449	2,422	2,627	3,504	3,983	4,673
Bihar	1,856	2,050	2,752	2,630	2,539	2,176	2,158	5,262	4,345	5,521
Gujarat	1,702	2,340	2,763	2,886	3,392	2,669	2,749	4,793	5,086	5,089 ³
Haryana	—	1,712	2,569	2,848	3,004	3,374	3,371	4,931	6,087	5,665
Himachal Pradesh	1,288	2,115	2,849	2,849 ³	3,343	3,737	2,745	4,395	4,395 ³	4,359 ³
Jammu and Kashmir	—	978	1,695	2,081	2,151	2,788	2,947	2,087	2,671	2,671 ³
Karnataka	1,375	1,840	2,654	2,698	2,877	2,859	2,893	5,153	5,185	3,042 ³
Kerala	1,152	1,724	2,565	2,555	2,788	2,959	2,947	5,185	4,855	4,936
Madhya Pradesh	1,816	2,118	3,013	3,175	3,761	3,942	3,942 ³	6,378	6,205	6,205 ³
Maharashtra	1,775	2,480	3,090	3,249	3,461	3,397	3,459	5,680	6,684	6,683
Orissa	1,180	2,000	3,242	3,590	3,323	3,193	4,194	5,417	5,684	6,119
Punjab	1,142 ²	1,636	2,219	2,409	2,464	2,576	3,087	3,675	3,977	4,040
Rajasthan	761	1,412	2,507	2,814	3,142	3,419	3,325	4,954	5,312	5,811
Tamil Nadu	1,465	2,032	2,670	2,860	2,912	2,716	2,543	4,817	5,303	5,386
Tripura	—	1,271	2,790	2,221	2,420	2,824	2,453	2,251	1,469	3,630
Uttar Pradesh	1,264	1,826	2,483	2,563	2,847	3,091	3,054	4,737	5,456	5,418
West Bengal	1,410	2,204	3,028	3,452	3,632	3,835	3,966	5,840	6,312	6,970
Andaman and Nicobar Islands	1,234	1,621	2,315	2,115	2,129	3,247	3,300	2,831	1,423	3,429
Delhi	1,655	2,321	3,040	3,047	3,183	3,165	3,239	5,092	5,738	5,516
Goa, Daman and Diu	—	2,105	2,204	2,555	2,976	3,223	3,792	5,965	6,419	6,080
Pondicherry	—	—	2,673	2,776	3,428	3,374	2,615	4,879	6,135	5,468

¹Provisional.²Includes Haryana also.³Repeated.

Note : The data given in the above table relate to workers earning less than Rs. 400 per month up to 1975 and from 1976 onwards relate to workers earning less than Rs. 1,000 per month.

Source : Labour Bureau.

Factories with more than 250 employees have to provide canteens for their workers.

WAGES AND EARNINGS

Table 22.2 gives the average per capita annual earnings of factory workers drawing less than Rs 400 per month in different states and union territories.

Money Earnings

The variation in money earnings is shown in table 22.3.

(1961-100)

TABLE 22.3
INDEX OF MONEY
EARNINGS OF
WORKERS

Description	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
General index of earnings	114	128	139	151	160	170	180	185	199	210	207	207

Regulation of Wages

The payment of wages is governed by the Payment of Wages Act, 1936 and the Minimum Wages Act 1948 as amended subsequently. The payment of wages (Amendment) Act, 1976 extends to the whole of India and applies to persons employed in any factory as defined in the Factories Act, 1948 and in any railway, receiving wages and salaries which average below Rs 1,000 a month.

Employers cannot withhold the wages earned by workers nor can they make any unauthorised deductions. Payments must be made before the expiry of a specified day after the last day of the wage period. Fines can be imposed for only those acts of omission which have been approved by the appropriate government and must not exceed an amount equal to three paise in a rupee of the wage payable. If the payment of wages is delayed or wrongful deductions are made, the workers or their trade unions can file a claim. The payment of overtime in scheduled employment is governed by the Minimum Wages Act, 1948.

Minimum Wages

The Minimum Wages Act, 1948 empowers the government to fix minimum wages of employees working in specified employments. It provides for review and revision of minimum wages already fixed after suitable intervals not exceeding five years. Wage rates under the Act have been fixed and also revised for several categories.

The Act provides for imposition of penalties on erring employers.

Equal Remuneration

Through an ordinance on 26 September 1975, which became an Act on 11 February 1976, equal remuneration was assured to men and women workers throughout the country.

The Act provides for the payment of equal remuneration to men and women workers for the same work or work of similar nature. It prevents discrimination on the ground of sex against women in the matter of employment and for matters connected therewith except where the employment of women in such work is prohibited or restricted by or under any law for the time being in force.

The Act has so far been enforced in several spheres, including plantations (covered under the Plantations Labour Act, 1951), local authorities, central and state governments, banks, educational institutions, mines, hospitals, hotels and restaurants, manufacture of textiles and textile products, wholesale and retail trade, construction, agriculture and air transport industry. In June 1978, it was extended to

community, social and personal services.

Bonus

The Payment of Bonus (Amendment) Ordinance, 1980 (10 of 1980) has since been replaced by the Payment of Bonus (Second Amendment) Act, 1980. The amended Act is not applicable to public sector enterprises except those operating in competition with similar undertakings in the private sector; it is also not applicable to institution not working for profit like the RBI, LIC and Departmentally managed undertakings. All banks are, however, covered. The Act provides for payment of a minimum bonus of 8.33 per cent or Rs 100/- whichever is higher irrespective of whether there is allocable surplus or not. The minimum bonus is payable provided there is allocable surplus to be determined according to a formula, subject to the maximum of 20 per cent. Bonus may be paid under a different formula linked to production/productivity in lieu of allocable surplus by mutual agreement between employers and the workers. Payment under any other formula would, however, be contrary to the law.

Under section 32(iv) of the Payment of Bonus Act, 1965 the employees employed by an establishment engaged in any industry carried on by or under the authority of any department of the central government or a state government or a local authority stand excluded from the purview of the Act. However, it has been decided to pay productivity linked bonus to the employees of Railways, P&T, certain defence establishments, and a few other such organisations. While schemes for payment of productivity linked bonus have been drawn up in the case of Railways and P&T, in the other cases schemes are yet to be evolved.

Occupational Wage Surveys

Occupational wages surveys are conducted by the Labour Bureau at periodic intervals to collect occupational data on wage rates and earnings in important manufacturing, mining and plantation industries in the country. The first and second surveys (both covering 44 industries) were conducted during 1958-59 and 1963-65 respectively and their reports have been released. In view of the utility of the data collected during the first two surveys, the National Commission on Labour recommended the conduct of such surveys at periodic intervals. Accordingly the Bureau took up the third survey (covering 81 industries), the field work for which was completed in four phases from 1974 to 1979. With a view to reducing the time lag it was decided to release brochures on dearness allowance and bonus before the availability of detailed figures of all the components of earnings. Brochures on dearness allowance and bonus have been prepared on all the 45 industries covered during the first, second and third phases of the survey. The main report on plantation industries covered during the first phase of the survey has also been released. Work relating to the preparation of brochures and main reports on the remaining industries is in progress.

Contract Labour

The Contract Labour (Regulation and Abolition) Act, 1970, which became applicable to the whole of India in February 1971, provides for the regulation of employment of contract labour in certain establishments and for its abolition in certain circumstances. It also fixes responsibility on the principal employer for payment of wages in case of defaults.

The Labour Bureau has conducted special studies on the extent and nature of contract labour in 26 different industries so far.

Bonded Labour	The bonded labour system has been abolished all over the country through the Bonded Labour System (Abolition) Act, 1976. Under the Act, every bonded labourer stands freed and discharged from any obligation to render any bonded labour. Upto December 1980 1,20,946 bonded labourers had been identified and freed in various parts of the country. Of them, 95,473 had been rehabilitated.
INDUSTRIAL RELATIONS Industrial Disputes	The Industrial Disputes Act, 1947 is the principal central legislation which provides a machinery for the settlement of industrial disputes. In addition, the Code of Discipline (1958) and the Industrial Truce Resolution (1962) also help in the promotion and maintenance of good industrial relations.
Industrial Employment Standing Order	Model rules have been framed by the central government under the Industrial Employment (Standing Orders) Act 1946 for adoption by industrial establishments employing one hundred or more workers to ensure industrial peace. An amendment of the Act in 1961 empowered the appropriate government to extend it to establishments employing less than 100 workers. Another amendment in 1963 made the Model Standing Orders, framed by the appropriate government, operative in all industrial establishments covered by them until the Standing Orders framed by the industrial establishments are certified. The Act now applies to all establishments in Andhra Pradesh, Gujarat, Maharashtra and West Bengal employing 50 workers or more. In Assam, it covers establishments (except mines, quarries, oil-fields and railways) which employ ten workers or more. In Tamil Nadu all factories registered under the Factories Act, 1948 are covered. In Uttar Pradesh the Act has been extended to all member establishments of the Employers' Association of Northern India and of Uttar Pradesh Oil-mill Owners' Association, electric supply undertakings, water works and industrial establishments engaged in glass industry, oil mills registered as 'factories', establishments employing more than 50 workers in textiles, engineering, printing presses, ginning and pressing, shellac industries, flour, dal and rice mills, and all industrial establishments voluntarily applying for certification of Standing Orders.
Code of Discipline	The Code of Discipline, requiring employers and workers to utilise the existing machinery for the settlement of disputes and avoiding direct action was evolved at the Indian Labour Conference in 1958. It has been accepted by all the central organisations of employers and workers and several others. The implementation organisations, at the centre and in the states, assist in settling disputes. The central organisations of employers and workers and public sector undertakings, except the AITUC, have also set up committees or cells to screen cases for dissuading their affiliate members from filing appeals in higher courts against the judgments of lower courts like industrial tribunals, labour courts, etc., in keeping with the letter and spirit of the code. A similar procedure for screening cases of appeals proposed to be filed by central undertakings has been in operation since 1964. The Code is also applicable to public sector undertakings run as companies and corporations except those under the Ministry of De-

fence, Railways and Ports and Docks. The Department of Defence Production, has agreed to apply the Code, with some clarifications, to its public sector undertakings run as companies and corporations. The Code has also been applied, with certain modifications, to the insurance industry, the State Bank of India and the Reserve Bank of India. However, the Code could not be applied to other banks in the absence of any agreement between the employers' and employees' representatives in respect of clarifications pertaining to the criteria for recognition of unions.

Industrial Truce

To ensure industrial truce during emergency in the country, an Industrial Truce Resolution was adopted by the central organisations of employers and workers in 1962. It laid down that there would be no interruption or slowing down of production: on the other hand, production will be maximised and defence effort promoted in all possible ways. A standing committee with the Union Minister of Labour and Employment as chairman was set up in August 1963 to review the working of the Truce Resolution. It has since been merged with the Central Implementation and Evaluation Committee.

National Arbitration Promotion Board

A National Arbitration Promotion Board was set up by the Government of India in 1967 to promote voluntary arbitration as a means for settling of industrial disputes. The Board comprises representatives of the employers' and workers' organisations, public sector undertaking and central and state governments. All the state governments as well as union territory administrations, except Uttar Pradesh and West Bengal, have either set up State Arbitration Promotion Boards or made some other institutional arrangements for the purpose.

Grievance Procedure

Under the Code of Discipline, managements have to establish a procedure to ensure full investigation of disputes to help in their settlement. Periodic studies are conducted to review the progress made in this regard.

Works Committee

Works Committees have been set up in industrial establishments employing one hundred or more workers. They comprise equal representatives of employers and workmen and aim at promoting measures for securing and preserving amity and good relations between the two parties. On 31 December 1980, Works Committees were functioning in 588 establishments.

Workers' Participation

A scheme for workers' participation in industry at shop-floor and plant levels, applicable to manufacturing and mining units employing 500 or more workers, was introduced in October 1975. Another scheme for workers' participation in management in commercial and service organisations in the public sector, having large scale public dealings and employing at least 100 persons, was announced in January 1977.

The issues thrown up by the working of the 1975 scheme were discussed at a tripartite labour conference held in May 1977. On the recommendation of the conference, a committee on workers' participation in management and equity, consisting of representatives of central organisations of employers and trade unions, some of the states and professional institutions of management, was appointed in September 1977, under the chairmanship of the Union Minister of

Labour. The report which was submitted to government showed that majority of the members favoured adoption of a three-tier system of participation, viz., at the corporate level, plant level and shop-floor level. The committee laid down the detailed functions of the various councils at shop-floor, plant and corporate levels. It recommended that workers' representatives at the participative forums should be elected through secret ballot. It also recommended that equity participation should be limited to private sector establishments and that it should be optional. It recommended further that an organisation be set up, both at the centre and in the states, to monitor the implementation of the scheme as also to review its working. The recommendations of the committee are, at present under the consideration of the government.

Conciliation and Adjudication

The Central Industrial Relations Machinery, also known as the Central Chief Labour Commissioner's Organisation, is responsible for the prevention, investigation and settlement of industrial disputes under the Industrial Disputes Act, 1947. It also enforces some labour laws in the central sphere.

When industrial disputes cannot be resolved by mutual negotiations, the conciliation machinery steps in. It is compulsory for the conciliation officer to hold conciliation proceedings when an industrial dispute exists or is apprehended in a public utility service and a notice under section 22 of the Industrial Disputes Act, 1947 has been received, but it is optional in the case of other industrial establishments.

The Industrial Disputes Act also provides for voluntary or compulsory adjudication of industrial disputes. Eight Industrial Tribunals-cum-Labour Courts have been set up to adjudicate disputes in the central sphere. Of these, three are at Dhanbad, two at Bombay and one each at Calcutta, Jabalpur and Delhi. The states have their own tribunals and labour courts. The Industrial Tribunal-cum-Labour Court at Delhi, under the Delhi Administration, also deals with some cases in the central sphere. National tribunals are set up by the central government when required.

To promote better industrial relations, the central government set up a National Commission on Labour in 1966 with Dr. P. B. Gajendragadkar as chairman. Its report was presented to the government in 1969. Government has accepted several recommendations made by the commission and taken follow-up action.

Lay Off and Retrenchment

In order to prevent avoidable hardships to the employees and to maintain higher tempo of production and productivity, the Industrial Disputes Act, 1947, has been amended to prevent lay-offs and retrenchments. Under the new Act, known as the Industrial Disputes (Amendment) Act 1976, reasonable restrictions have been put on an employer's right to lay off, retrenchment and closure. Now the employer has to seek prior approval of the appropriate government by giving at least a three months' notice before the intended closure, stating clearly the reasons for laying off, retrenchment and closing of industrial establishment where three hundred or more workmen are employed. In the interest of rehabilitation of workmen and maintenance of supplies and services essential to the life of the community, the Act also provides for restarting the undertakings which have already closed down otherwise than on account of circumstances beyond

the control of the employer. Under the new Act no workman employed in any industrial establishment who has been in continuous service for not less than one year, shall be retrenched without giving three months notice in writing, indicating the reasons for retrenchment. He is also entitled to compensation equivalent to 15 days of every completed year of continuous service or any part thereof in excess of six months. The provisions with regard to closure in the amendment Act are not operative as a result of the Supreme Court judgment in *Excel Workers Versus Union of India* case 1978.

National Labour Institute

The National Labour Institute, a registered society under the overall control of the Ministry of Labour, was set up in New Delhi on 1 July 1974 to disseminate knowledge of the necessary techniques and skills to those required to handle labour relations at central and state levels on a tripartite basis. It is an inter-disciplinary action-cum-research body mainly concentrating on problems of rural landless labourers, participative management and industrial democracy and dissemination of participative management spirit in government system. The Institute is also involved in inter-related and inter-linked activities of educational and training, research, consultancy and publications. It brings out two monthly journals—*National Labour Institute Bulletin* and *Awards Digest*, besides publishing occasional papers. The Institute organises rural labour camps *inter-alia* to train organisers of rural labour and to diagnose the problems of the rural poor and to promote action, research and participation efforts towards their development.

TRADE UNIONS The Trade Unions Act, 1926 provides for the registration of trade unions. Any seven or more members of a trade union may, by subscribing their names to the rules of the trade union and otherwise complying with the provisions of the Act with respect to registration, apply for registration of the trade union under the Trade Unions Act. The Act gives protection to registered trade unions in certain cases against civil or criminal action.

Table 22.4 shows the number and membership of the registered trade unions in India.

TABLE 22.4
REGISTERED
TRADE UNIONS
AND MEMBERSHIP

Particulars	Workers' unions			Employers' unions		
	1961-62	1976 ¹	1977 ¹	1961-62	1976	1977 ¹
Number of unions on register	11,416	22,417 ²	28,924 ²	198	493 ²	466 ²
Number of unions submitting returns	6,954	8,719	8,177	133	140	109
Membership of unions submitting returns (000's)	3,960	6,021	5,447	18	53	25

¹Provisional and excludes Jammu and Kashmir, Kerala, Nagaland, Rajasthan and West Bengal for 1976 and Assam, Bihar, Himachal Pradesh, Jammu and Kashmir, Kerala, Madhya Pradesh, Rajasthan and West Bengal for 1977.

²Estimated.

SOCIAL SECURITY

There are several schemes providing social security to the workers against such contingencies as ill health, industrial accidents, maternity, etc.

Employees' State Insurance Scheme (ESI)

The Employees' State Insurance Act 1948, which till recently covered non-seasonal factories using power and employing 20 or more persons, is now being gradually extended by the state governments to smaller factories, hotels, restaurants, shops, cinemas, etc. employing 20 or more persons. It covers employees drawing wages not exceeding Rs 1,000 per month.

The Act provides for medical care, cash allowance during sickness, maternity, employment injury and pension for dependents on the death of a worker because of injury. Full medical care including hospitalisation, is also being progressively made available to the members of the family of the insured persons.

As on 31 October 1979, there were 68 ESI hospitals and 35 annexes with 15,462 beds and 1,035 dispensaries. The number of employees covered was about 60.22 lakhs as on January 1981.

Employees' Provident Funds

Retirement benefits are available to the employees under the Employees' Provident Funds and Miscellaneous Provisions Act, 1952. On 30 September 1980, it covered 160 industries all over India except Jammu and Kashmir. The Act does not apply to establishments registered under the Co-operative Societies Act 1912, and employing less than 50 persons and working without the aid of power.

The employers contribute 6½ per cent of the basic wage and dearness allowance, including the cash value of food concessions and retaining allowance payable to the employees. The employees make a matching contribution. The government has enhanced the rate of contribution to 8 per cent in the case of 89 industries employing 50 or more persons.

At the end of September 1980, the subscribers numbered 108.74 lakhs. The receipts in provident funds, including interests earned, totalled Rs 6,913.03 crores while the amount refunded was Rs 3,272.22 crores.

Employees' Deposit-linked Insurance Scheme

Another important social security measure, the Employees' Deposit-Linked Insurance Scheme 1976, was introduced for the members of the Employees Provident Fund and the exempted Provident Funds with effect from 1 August 1976. On the death of a member, the person entitled to receive the provident fund accumulations would be paid an additional amount, equal to the average balance in the provident fund account of the deceased during the preceding three years, if such average balance was not below Rs 1,000 during the said period. The maximum amount of benefit payable under the Scheme is Rs 10,000 and the employee does not have to make any contribution for it.

As on September 1980, 18,078 claims were settled and a sum of Rs 13.70 crores paid to the claimants.

Gratuity Scheme

Under the Payment of Gratuity Act 1972, employees in factories, mines, oil-fields, plantations, ports, railways, motor transport undertakings, companies, shops and other establishments are entitled to gratuity. This is payable at the rate of 15 days' wages for each completed year of service, subject to a maximum of 20 months' wages. However, in the case of seasonal establishments, the employer shall pay the gratuity at the rate of 7 days' wages for each season. The Act does not affect the right of an employee to receive better

terms of gratuity under any award or agreement or contract with the employer.

- Death Relief** A Death Relief Fund was set up in January 1964 to ensure a minimum of Rs 500 as financial help to the nominees or heirs of deceased members of unexempted establishments. The limit was raised to Rs 750 on 1 August 1969. The benefit has been extended to cover nominees or heirs of such persons whose pay does not exceed Rs 500 per month at the time of death.
- Family Pension** To provide long-term financial security to the families of industrial employees in the event of their premature death, the Coal Mines Family Pension Scheme 1971, and the Employees' Family Pension Scheme 1971 were introduced from 1 March 1971. The Schemes are financed by diverting a portion of the employers' and employees' contribution to the Employees' Provident Funds with an additional contribution by the central government. As on 30 September 1980 57.44 lakh members were covered under the Employees' Family Pension Scheme.
- Salesman Act** The Sales Promotion Employees (Condition of Service) Act, 1976 gives benefits under various labour laws to persons engaged in sales promotion activities. Besides regulating their service conditions, the Act extends the benefits of labour laws relating to security of service, minimum wages, maternity benefits, payment of bonus, gratuity and compensation, provisions for leave, issuing of appointment letters, etc. The Act which came into force from 6 March 1976, is at present applicable to employees engaged in the pharmaceutical industry.
- Coal Mines Provident Fund** Provident Funds in coal mines have been set up under the Coal Mines Provident Fund and Miscellaneous Provisions Act, 1948. Except a few excluded categories, all persons employed in or connected with a coal mine, either directly by employers or through contractors, have to become subscribers to the fund when they have put in 60 days' attendance (above-ground miners) and 48 days' attendance (under-ground miners) in a calendar quarter. They are compulsorily required to contribute 8 per cent of their emoluments, with a matching contribution by the employers. Subscribers can make a voluntary contribution up to 8 per cent in excess of their compulsory contribution. They can get non-recoverable advances for house-building, financing of life insurance policies, meeting the expenses in connection with the marriage of daughter, for post-matriculation education of children and for purchasing shares of consumers co-operative societies and co-operative credit societies.
- As on 31 December, 1978 there were 6.78 lakh subscribers to the provident funds in 1,001 coal mines and ancillary organisations.
- Working Journalists Act** The Working Journalists and other Newspaper Employees (Conditions of Service) and Miscellaneous Provisions Act, 1955 regulates the conditions of service of working journalists and other persons employed in newspaper establishments. By a specific provision of this Act, the provisions of the Industrial Disputes Act with certain modifications have been applied to working journalists.

**PALEKAR
TRIBUNALS**

The central government had appointed two tribunals under the provisions of the Working Journalists and Other Newspaper Employees (Conditions of Service) and Miscellaneous Provisions Act, 1955 to fix the rates of wages in respect of working journalists and non-journalists newspaper employees in February, 1979 headed by Shri D. G. Palekar, retired judge of Supreme Court. The Tribunal submitted their recommendations to the government on 13 August 1980.

The government has accepted the recommendations of the Tribunals except those relating to the dearness allowance. Formula, with certain modifications and orders to this effect have been issued and published in the Gazette of India, extraordinary. As the proposed modifications relating to the recommendations on dearness allowance, in the opinion of government, effect important alternations in the character of the recommendations, notices have been issued to the likely affected parties, i.e. newspaper and news agency employers and employees calling for representations, if any, within 30 days of the publication of the notice about the proposed modifications.

**Coal Mines
Provident Fund
Deposit-linked
Insurance Scheme**

Deposit-linked Insurance has been introduced from 1 August 1976 for the employees of the coal industry. Under the scheme a person entitled to receive provident fund dues on the death of an employee who was a member of the Coal Mines Provident Fund, is also entitled to get, in addition to the amount of provident fund, an amount equal to the average of balance in the account of the deceased during the preceding three years (provided that such balance is not less than Rs 1,000), subject to a maximum of Rs 10,000. No contribution is to be paid by the employee. The expenditure on the scheme and on its administration is to be contributed by the employers and the Central Government in the ratio of 2 : 1. As on 31 December 1978, 117 claims were settled and Rs 7.27 lakhs paid to the claimants.

**Coal Mines
(Attendance)
Bonus**

To encourage regular attendance by coal mine workers, a bonus scheme was framed under the Coal Mines Provident Fund and Miscellaneous Provisions Act, 1948. To begin with, those who had put in specified days of attendance were paid quarterly bonus at ten per cent of the basic earnings. From January 1973, they are paid bonus for the period for which they actually attend the mines.

As on 31 December 1978, the scheme covered 623 collieries all over India, except those in Jammu and Kashmir.

**Workmen's
Compensation**

The Workmen's Compensation Act, 1923, requires the employers to compensate the workers against occupational diseases and injuries arising out of and in the course of employment. The Act has prescribed separate scales of compensation for death, permanent total disablement, permanent partial disablement and temporary disablement. It now covers workers employed in certain specified hazardous occupations and drawing wages not exceeding Rs 1,000 per month except those who are covered under the Employees' State Insurance Act, 1948.

**Maternity
Benefits**

The Maternity Benefit Act 1961, regulates the employment of women in certain establishments for certain periods before and after child birth and provides for maternity and other benefits. The Act applies to mines, factories, circus industry and plantations, including any such establishments belonging to government, except the employees who are covered under the Employees' State Insurance Act, 1948. It

can be extended to other establishments by state governments. There is no wage limit for coverage under the Act.

LABOUR WELFARE

To enable workers to work in congenial surroundings, certain amenities such as canteens, rest shelters, creches, medical aid and education and recreational facilities have been provided in factories, mines and plantations covered by the Factories Act, 1948, the Mines Act, 1952, the Plantations Labour Act, 1951 and the Bidi and Cigar Workers (Conditions of Employment) Act, 1966. Contract labour is also provided similar amenities under the Contract Labour (Regulation and Abolition) Act, 1970. Factories employing 500 or more workers have to appoint welfare officers to look after the welfare of the workers. There are at present about 220 welfare officers in various central government departmental undertakings.

Welfare funds in central undertakings were created on a voluntary basis in 1966. The question of enlarging its scope is, however, under active consideration of the government.

Mines

For the welfare of mine workers, welfare funds have been set up in coal, mica, iron ore, manganese ore, limestone and dolomite mines. The finance for the funds are raised through the levy of a cess on the coke and coal despatches from the collieries, an *ad valorem* cess as customs duty on mica exports, a cess as duty of customs on export of iron ore and manganese ore and duty of excise on internal consumption and a cess on the limestone and dolomite consumed by the iron ore and steel plants and cement and other factories. The welfare activities include housing, public health and sanitation, medical, educational and recreational facilities for workers and their dependents. It also covers provisions of monetary and other benefits under the Fatal and Serious Accident Benefit Schemes. A welfare fund for *Bidi* workers was set up in 1976.

Dock Labour

Various welfare measures are in operation for the dock workers in Bombay, Calcutta, Cochin, Kandla, Madras, Marmagao, New Mangalore, New Tuticorin, Paradip, Vishakhapatnam and other ports. These include housing, medical care, tuition fee concession for children and recreation and canteen facilities. Fair price shops and consumers' co-operative societies are also operating in some of the ports.

Plantation Labour

Under the Plantations Labour Act 1951, all plantations provide housing accommodation to their resident workers and their families and maintain hospitals or dispensaries for them. Some of the plantations also run elementary schools for the education of the labourers' children. Training in useful handicrafts, such as tailoring, knitting, weaving and basket-making and recreational facilities are provided in some of the tea estate centres with the help of the Tea Board.

Motor Transport Workers

The Motor Transport Workers' Act, 1961 provides for the welfare of motor transport workers and for the regulation of their working conditions. The various schemes in operation include canteens, rest rooms, uniform hours of work and leave. The Act is administered by the state governments which have framed rules for its enforcement. The second conference of Chief Inspectors appointed under the Motor Transport Workers Act, held in June 1978, had recommended a number of amendments to the Act so as to remove certain difficulties

faced in the implementation of the various provisions of the Act. These are under consideration of the government.

Workers' Education

The Central Board for Workers' Education, set up in 1958, is a tripartite body, consisting of representatives of central and state governments, organisations of employers and workers and educationists. It is a registered society for implementation of workers' education schemes with the following objectives : (i) to equip all sections of workers, for their intelligent participation in socio-economic development of the nation; (ii) to promote among workers, a greater understanding of the problems of their socio-economic environment, their responsibilities towards family and their rights and obligations as citizens, as workers in industry and as members and officials of their trade unions; (iii) to develop leadership from among the rank and file of workers themselves; (iv) to create strong, united and more responsible trade unions through enlightened members and better trained officials; (v) to strengthen democratic processes and traditions in the trade union movement; and (vi) to enable trade unions themselves to take-over ultimately the functions of workers' education.

The scheme of workers' education is divided into three stages. Under the first stage, training is given to education officers who are full-time employees of the Board. In the second stage, workers sponsored by trade unions are trained for three months by the education officers. These workers are called worker-teachers. In the third stage, worker-teacher conducts classes for other workers at their places of employment. As on 31 December 1980, about 57,047 worker-teachers and 27.68 lakh workers had been trained.

Rural Workers' Education

In 1977, the activities of the Board were extended to the unorganised sector also. Under the programme, seven pilot projects were started in 1977-78 at selected regional centres. The experience of these projects was encouraging and the Board has since decided to extend the programme to all the regional workers' education centres on regular basis. The category of workers covered are : landless labourers, agricultural workers, rural artisans, forest and fisheries labour, marginal peasants and educated unemployed in rural areas.

WORKERS' SAFETY National Safety Council

The National Safety Council was set up in March 1966. Its main function is to conduct seminars, organise film shows in factories and distribute posters on the subject of safety.

In July 1980, the Council's membership consisted of 888 corporate members, 93 individual members, 11 trade union members and 16 life members.

National Safety Awards

Various schemes for the grant of National Safety Awards to factories covered by the Factories Act 1948, and ports have been instituted for good safety records. Each scheme consists of cash prizes and certificates of merit. Seventy three factories two stevedoring firms and three port authorities were given the awards for the year 1977 in 1980.

Safety in Mines

Under the Constitution, safety, health and welfare of workers employed in mines are the concern of the central government. The

matter is regulated by the Mines Act 1952. The Act applies to mines of all types including mines of atomic minerals and oil fields—both on and off shore. There are at present about 564 coal mines and 5,000 non-coal mines working in the country and coming under the purview of the Mines Act. Nearly eight lakh workers are employed in these mines.

Over the years, there has been a perceptible downward trend in the incidence of accidents. Death rate, per 1,000 persons employed, which used to be of the order of 1.82 in 1923 and 1.00 in 1952 in coal mines, is currently of the order of 0.32. Likewise, the rate in non-coal mines has come down from 1.05 in 1923 and 0.47 in 1952 to a range of 0.22 to 0.35. Corresponding improvements in the incidence of serious accidents had also been achieved. Serious injury rates which were of the order of 7.50 for coal mines and 5.60 for non-coal mines in 1947-52 came down to 4.16 and 3.39 respectively by 1980.

Shram Vir Awards

Shram Vir Awards were instituted in 1965 for workers in factories, mines, plantations and docks. They are given in recognition of meritorious performance—such as suggestions leading to higher productivity or economy or greater efficiency. Thirty five awards were distributed in 1978 to 50 winners under various categories for the Award Year 1976.

AGRICULTURAL LABOUR

According to the 1971 Census, agricultural labourers in India numbered 4.75 crores representing 26.33 per cent of the total work force in the country. The corresponding figures in 1961 were : 3.15 crores and 16.71 per cent. This increase in the number of agricultural labour has been accompanied by a decrease in the number of cultivators from 9.95 crores in 1961 to 7.82 crores in 1971.

The average annual income of an agricultural labour household in India during 1950-51 was Rs 447.00; during 1956-57 it fell to Rs 437.47 but increased to Rs 660.19 during 1963-64 and again increased significantly to Rs 1,671 during 1974-75. The 25th round of the National Sample Survey has revealed that during the period July 1970 to June 1971, the average earnings as wages per man-day for the country as a whole were Rs 2.03 for the landless worker and Rs 1.90 for the small cultivator.

The Minimum Wages Act, 1948 and the Trade Unions Act, 1926 are applicable to agricultural labour. Agricultural farms run on commercial lines are also covered by the Industrial Disputes Act, 1947. The Employees' Provident Fund and Miscellaneous Provisions Act, 1952 is applicable to agricultural labour engaged in specified plantations. Workers employed in farming by tractor or other mechanical power or by electricity are already covered by the Workmen's Compensation Act, 1923.

The government convened a conference on rural unorganised labour on 25 January 1978 to consider the problems facing agricultural workers. A Central Standing Committee has since been constituted to advise the government on measures to ameliorate the socio-economic conditions of unorganised rural labour.

The Government of India has ratified the ILO Convention number 141. It requires the ratifying countries to facilitate the establishment and growth, on voluntary basis, of strong and independent organisation of rural workers.

Rural Labour
Enquiry

The rural labour enquiry was conducted between 1963-65 through the National Sample Survey. Data were collected on consumption expenditure, income, employment, unemployment, earnings and indebtedness of rural labour households (including agricultural labour households). The field work of the second rural labour enquiry was completed in June 1975. The data are under scrutiny. Meanwhile the Labour Bureau has brought out the summary report of the Rural Labour Enquiry 1974-75 which contains provisional results on all-India basis in respect of selected economic indicators.

EMPLOYMENT

Employment in the organised sector, *i.e.*, in all the public sector concerns and non-agricultural establishments employing ten or more persons, increased from 222.5 lakhs in March 1979 to 229.3 lakhs (Provisional) in March 1980, an increase of 3.1 per cent as compared to 3.5 per cent during the previous year. The increases in public and private sectors employment during 1979-80 were 4.3 per cent and 0.3 per cent respectively as compared to 4.2 per cent and 2.3 per cent in the preceding year.

The comprehensive labour force surveys conducted by the National Sample Survey Organisation, once in five years since 1972-73, provide estimates of unemployment in the country. However, accurate estimates of employment and unemployment in the country are not available. The most recent estimates are based on the 'key results' available from the survey conducted between July 1977 and June 1978 (32 round of the National Sample Survey). According to these results "weekly status" unemployment the average number of persons aged between 15 and 59 who did not have even an hour's work during the survey week and who were looking for or were available for work, was one crore during 1977-78. The daily status unemployment or the average daily unemployment was 1.68 crores person-years during the same period.

National
Employment
Service

The National Employment Service (NES), started in 1945, consists of a network of employment exchanges manned by trained personnel. The exchanges assist all employment seekers, specially the physically handicapped, ex-servicemen, scheduled castes and scheduled tribes, university alumni and professional and executive personnel. The NES also carries out other functions, such as vocational guidance and employment counselling for better utilization of human resources, the collection and dissemination of employment market information and conducting studies in the field of employment and occupational research, which provide the basic data for framing policy on some aspects of manpower.

Under the Employment Exchanges (Compulsory Notification of Vacancies) Act, 1959, it is obligatory for all establishments in the public sector and non-agricultural establishments in the private sector employing 25 or more workers to notify their vacancies (with certain exemptions) to the employment exchange and supply periodic information.

The number of employment exchanges in the country on 31 December 1980 was 567 including 71 university employment information and guidance bureaux. Table 22.5 gives figures relating to

the activities of the exchanges. The subject Rural Employment and Unemployment has now been transferred from the Ministry of Labour.

Administration

The day-to-day administrative control over the employment exchanges was transferred to the state governments in November 1956. From April 1969, the states were also made financially responsible for the manpower and employment schemes. The role of the central government is limited to policy-making, co-ordination of procedure and standards, and the development of various programmes on an all-India basis.

TABLE 22.5
ACTIVITIES OF
EMPLOYMENT
EXCHANGES

Year	No. of exchanges ¹	No. of registra- tions	No. of applicants placed in employ- ment	No. of applicants on the live register	Monthly average no. of employers using the exchanges	No. of vacancies notified
1956	143	16,69,985	1,89,855	7,58,503	5,346	2,96,618
1961	325	32,30,314	4,04,707	18,32,703	10,397	7,08,379
1966	396	38,71,162	5,07,342	26,22,460	12,908	8,52,467
1971	437	51,29,857	5,06,973	50,99,919	12,910	8,13,603
1972	453	58,26,916	5,07,111	68,96,238	13,154	8,58,812
1973	465	61,45,445	5,18,834	82,17,649	13,366	8,71,398
1974	481	51,76,274	3,96,898	84,32,869	12,175	6,72,537
1975	504	54,43,493	4,04,056	93,26,289	11,124	6,81,614
1976	517	56,19,397	4,96,781	97,84,332	13,277	8,45,575
1977	528	53,24,607	4,61,610	1,09,24,043	12,392	8,03,379
1978	535	61,43,834	4,60,641	1,26,77,821	12,967	8,30,728
1979	546	61,27,156	4,66,294	1,43,33,923	13,618	8,78,689
1980	567	61,58,242	4,77,651	1,62,00,270	13,227	8,37,725

¹Includes 15 professional and executive employment offices and excludes 71 university employment information and guidance bureaux.

Vocational
Guidance

Vocational guidance and employment counselling services are provided to the youth (applicants without any work experience) and adults (with specific work experience). During 1980, vocational guidance units were functioning at 263 employment exchanges, apart from 71 university employment information and guidance bureaux.

In order to divert educated youth to channels of gainful employment, vocational guidance and career advising programme of the Directorate-General of Employment and Training (DGE&T) have been expanded and streamlined. A career study centre at the Central Institute for Research and Training (CIRTES) provides career literature for the occupational orientation of the youth and other guidance seekers. CIRTES also imparts training in employment services, procedures, vocational guidance and seminars for the personnel of national employment service. It is also engaged in conducting research studies in several areas and fields of employment service.

Exchanges
for Physically
Handicapped

There are 18 special exchanges for the physically handicapped. They are functioning at Ahmedabad, Bangalore, Bhubaneswar, Bombay, Calcutta, Chandigarh (one for Punjab and another for Haryana), Delhi, Hyderabad, Jabalpur, Jaipur, Kanpur, Madras, Patna, Simla, Gauhati, Trivandrum and Agartala. Till December 1980, 92,331 applicants had registered themselves with them, out of whom 22,499 persons had been placed in employment.

Eleven vocational rehabilitation centres for the physically handicapped are functioning at Ahmedabad, Bangalore, Bombay, Calcutta, Delhi, Hyderabad, Jabalpur, Kanpur, Ludhiana, Madras and Trivandrum. Till December 1980, they admitted 37,526 persons, out of whom 8,531 were rehabilitated.

Training Programmes

In an endeavour to build up the career of young persons in their adolescence, the DGE&T has evolved various training programmes. These are formulated within the national framework as far as possible and also in collaboration with foreign countries.

Craftsmen's Training

Industrial training institutes have been set up all over the country to impart skills in 32 engineering and 23 non-engineering trades to young-men and women in the age group 15-25. At present 512 such introduced aptitudes tests which are applied for the selection of craftsmen. Training is also conducted in 319 private institutes affiliated to the National Council for Training in Vocational Trades.

To promote the efficiency of craftsmen-trainees, the DGE&T has introduced aptitude tests which are applied for the selection of craftsmen-trainees in engineering trades. The aptitude testing programme has also been extended to industries in different regions for selecting suitable candidates as apprentices under the Apprentices Act, 1961.

The duration of the courses varies from one to two years for engineering trades, but is one year for all non-engineering trades. Successful candidates are awarded National Trade Certificates.

Besides 53 trades, the state governments and union territories have introduced training in additional trades to meet the requirements of the new industries established in their areas.

The educational qualification for admission in the industrial training institutes in most of the trades under the Craftsmen's Training Scheme is 8th standard or two classes below the matriculation or its equivalent.

The industrial training institutes have also started a scheme to train other ranks in the Indian Army to facilitate their rehabilitation in civil life on their release or retirement from service.

Craft Instructors Training

Six central training institutes at Bombay, Calcutta, Hyderabad, Kanpur, Ludhiana and Madras train craft instructors required by the Industrial Training Institutes and the Apprenticeship Training Establishments. The six institutes, with an admission capacity of 1,136 impart training in a number of trades. Facilities for the training of instructors have also been provided in chemical group of trades at the Bombay institute, and in hotel-catering at the Hyderabad institute. Facilities for training in printing, weaving and farm mechanics trades are also being provided at institutes in Kanpur, Bombay and Ludhiana respectively. A model training institute is attached to each of the Central Training Institute, which provides practical training for instructors.

Advanced Vocational Training System

A project called 'advanced vocational training system' has been launched for training of highly skilled workers and technicians in a variety of advanced and sophisticated skills not available from other

vocational training programmes. The system has been introduced in the Central Training Institutes for Instructors located at Bombay, Calcutta, Hyderabad, Kanpur and Ludhiana, Advanced Training Institute, Madras and 16 selected Industrial Training Institutes located at Ambattur, Bangalore, Vadodara, Dhanbad, Durgapur, Faridabad, Gauhati, Jabalpur, Jammu, Jodhpur, Kalamessary, Meerut, Patiala, Pune, Rai-Bareilly and Visakhapatnam. These institutes are being modernised and developed into Model Training Institutes to enable them to conduct various advanced courses under the scheme. The Advanced Training Institute at Madras is functioning as the Apex and the five Central Training Institutes where the system has been introduced serve as Regional Institutes for the country as a whole. So far about 6,068 highly skilled workers have been trained under the Scheme.

An advanced training institute for electronics and process instrumentation has been established at Hyderabad to train highly skilled technicians in fields such as domestic/industrial/medical/electronics and process instrumentation. The Institute has conducted 93 short-term/long-term courses in which 1,161 persons have been trained till January 1981.

Foremen's Training

An institute to train foremen was established in Bangalore in 1971. It trains existing and potential shop foremen and supervisors in theoretical and managerial skills and workers from industry in advanced technical skills. The facilities generated at this institute are being made available through the Central Training Institute, Bombay, also. A part-time evening course has also been introduced on the modular system at the Foremen Training Institute, Bangalore. It conducted 237 courses and trained 3,870 persons up to January 1981.

Apprenticeship Training Scheme

The Apprentices Act, 1961 makes it obligatory for employers in specified industries to engage apprentices. The training consists of basic training followed by on-the-job or shop-floor training in accordance with standards prescribed by the government in consultation with the Central Apprenticeship Council. So far 217 industries and 136 trades have been brought under the Act. The Apprentices (Amendment) Act, 1973 provides for reservation of seats for scheduled caste and scheduled tribe candidates as well as for improving the employment potential of engineering graduates and diploma holders.

About 16,791 establishments are implementing the Act. About 1.14 lakhs trade apprentices undergo training in various trades. Fifty seven subject fields in engineering/technology have been designated and about 12,120 graduate and diploma holders apprentices undergone training in the various subject fields up to 1981.

Part-time Training to Industrial Workers

Along with the expansion of facilities for the training of craftsmen in institutes and through the apprenticeship programme, even classes have been organised to improve the standards of industrial workers who may enter the industry without any systematic training.

Industrial workers, irrespective of their age, but possessing two years' workshop experience in a particular trade and sponsored by their employers are eligible for admission to this course. The period of training is two years.

Courses are conducted in six Central Training Institutes and 32 Industrial Training Institutes.

**Vocational
Training Research**

A Central Staff Training and Research Institute was set up at Calcutta in 1970 for developing indigenous training techniques. The Institute conducts training programmes for officers and staff of the central and state governments as well as from industry who control, regulate and direct training programmes. It also carries out research in trades and training techniques, prepares training aids, and advises industry on industrial training methods. It conducted 219 staff training courses and trained 2,087 officers up to January 1981.

**Vocational
Training
Programme for
Women**

The Central Training Institute for Women at New Delhi has been upgraded into a National Vocational Training Institute for Women. The Institute provides instructor training, basic training and advanced training in selected trades particularly suitable for women. Two Regional Vocational Training Institutes for Women have also been set up at Bombay and Bangalore.

**COMMITTEE
ON
AUTOMATION**

A committee on automation was set up by the central government in 1969 with Shri R. Venkataraman as chairman to review the effect of automation in enterprises in which it has already been introduced. It was also to suggest criteria for determining areas and fields in which automation, including computers, may be permitted and to recommend safeguards for avoiding or minimising any harmful social effect of automation. Its report was presented to the government in 1972. Consequent on the resignation of Shri R. Venkataraman, government appointed Professor V. M. Dandekar as chairman of the committee. The committee in its report recommended establishment of computer service centres for users and a procedure for introduction of computers in industrial establishments.

The problem of housing in India is a complex one, requiring finances on a large scale, and is dependent for its solution on the concerted efforts of individuals, co-operatives and central and state governments, to be planned and executed over a number of years. There is an acute shortage of housing in urban and rural areas and much of the available accommodation is qualitatively sub-standard.

With a growing population and the steady shift of population from the rural to urban areas, the problem has become more difficult, both in qualitative and quantitative terms.

According to the 28 round of the national sample survey for 1973-74, nearly two-thirds of urban households live in pucca houses. In rural areas, however, kutchha and semi-pucca houses are the rule. Most of them, however, would require extensive repairs or replacement over a 20-year period. In urban areas, a very large number of households have limited access to basic needs like water and sanitation and only a small minority of households have modern facilities for their exclusive use. In rural areas, where the need for such modern facilities may be less urgent, practically all households are dependent on communal sources for water and on nature for sanitation.

The shortage of housing was estimated at 211.5 lakh units by the end of 1980, 164 lakhs in rural and 47.5 lakh units in urban areas.

To encourage house building activity, the government is taking measures to remove and eliminate the obstacles and disincentives which deter the growth of private building activities. Action has also been taken to preserve the existing housing stock as long as possible in a satisfactory condition.

Although it is the endeavour of the government to solve the housing problem as expeditiously as possible within the available resources, it is not possible to provide a house to every family at public cost, involving expenditure of several hundreds of crores of rupees, in view of the competing claims of other priority problems facing the country.

To improve the housing condition, specially for the lower income group, the Government of India has introduced from 1952 several social housing schemes providing subsidised housing on a limited scale for the economically weaker sections of the community like slum-dwellers and industrial and plantation workers. It provides financial assistance to state governments for undertaking composite projects of land acquisition and house construction to cater to the needs of low and middle income groups.

HOUSING FINANCE

Most of the funds for housing are provided by the central and state governments. The Life Insurance and the General Insurance Corporations supplement these funds. Funds are also provided by the Housing and Urban Development Corporation which advances loans to state governments, State Housing Boards and Housing and Urban Development Authorities for the execution of their housing projects. Reserve Bank of India has also issued instructions to scheduled commercial banks to allocate Rs 75 crores for housing loans every year.

Investment

Over the last three decades, public investment in housing through the Five Year Plans has been of the order of Rs 1,253 crores. In addition,

investment by public sector enterprises, departmental undertakings and grants-in-aid institutions was about Rs 1,800 crores. Investment by private sector during the corresponding period has been estimated to about Rs 12,740 crores.

For the Sixth Plan period (1980-85) the combined public and private sector outlay is expected to be about Rs 12,900 crores : Rs 3,500 crores for rural housing and Rs 9,400 crores for urban housing. Such an outlay would yield about 1.3 crore units in rural areas and 57 lakh units in urban areas. Additional investment by public sector enterprises, departmental undertakings and grants-in-aid institutions may be of the order of Rs 250-300 crores. The emphasis continues to be on providing shelter to weaker and low income groups in the society.

RESEARCH National Building Organisation

Research in building techniques and new methods of house construction is carried out by the National Buildings Organisation (NBO) which was set up by the Government of India in 1954 as an advisory and co-ordinating body for all technical matters concerning building and housing. The NBO also sponsors research work on various aspects of building construction, improvement of utilization of building materials and on the sociological and economic aspects of housing. Nine rural housing wings at Vallabh Vidyanagar (Anand), Bangalore, Calcutta, Chandigarh, New Delhi, Srinagar, Trivandrum, Varanasi and Jodhpur are functioning under NBO for research, training and extension work in rural housing and village planning.

The Organisation, which is the national agency for collection of building and housing statistics, also functions as the United Nations Regional Housing Centre for ESCAP region.

The NBO has set up a permanent building exhibition in Nirman Bhavan, New Delhi, where building materials and products available in the market, and also new and improved materials evolved by research organisations are on display.

The NBO has made an important contribution for reducing cost of construction by promoting the application of results of research in practice through its experimental housing schemes. As many as 50 new materials and construction techniques evolved by research laboratories have been incorporated in 38 experimental projects, costing over Rs 2.51 crores. These projects were sponsored by various central and state construction departments, housing boards and other agencies in the country. The NBO has evolved minimum specifications for housing and building, norms for consumption of materials and space norms for repetitive types of buildings such as schools, health centres etc. It has also done useful work for facilitating introduction of standardisation and modular coordination in the building industry which would go a long way in rationalising housing and building.

The organisation has prepared a typical design of a house for the landless workers and a sample house has been put up at village Sultanpur, New Delhi, to demonstrate the use of water-proof and plaster and fire retarding treatment of thatch. The NBO has also prepared all India standard schedule of rates and specifications for unifying building practices in the country.

Central Building Research Institute

The Central Building Research Institute, which till recently was under the control of the Ministry of Works and Housing has been registered as a society under the Societies Registration Act.

The Institute undertakes research in the field of building science and technology comprising : building materials; building physics; soil mechanics and foundation engineering; building process; plant and productivity; design and functional efficiency of building; architecture and physical planning; fire research; and building economics and management.

The object of the research programme of the institute is to help engineers, architects, manufacturers of building materials, builders and others engaged in the building industry to achieve economy and efficiency. Developmental testing, technical information to building industry and other organisations are also the functions of the Institute.

PRODUCTION OF MATERIALS

The Hindustan Prefab Ltd. (earlier known as Hindustan Housing Factory Ltd.), a Government of India company, apart from manufacturing pre-fabricated houses, specialises in producing several other items, such as pre-fabricated reinforced cement concrete components, pre-stressed cement concrete transmission poles, foam concrete panels and partition and insulation blocks. It undertakes wooden joinery work and has the largest seasoning kilns for timber in north India. It has standardised certain pre-cast building components for use by individual house-builders and construction agencies.

The pre-fabricated components for industrial structures by the Factory have not only effected saving in steel and resulted in quicker construction but also brought down the construction cost to some extent. This system has been successfully utilised for the industrial sheds of four industrial projects.

HPL also renders consultancy and project management services for prefab construction in housing projects specially for industries, mining sector, etc.

CONSTRUCTION AGENCIES National Buildings Construction Corporation

The National Buildings Construction Corporation Limited, New Delhi, a Government of India enterprise, undertakes specialised construction works both inside and outside the country. It is well equipped to undertake jobs on turn-key basis right from planning and designing stage to execution and completion stage through its 40 units in India and 8 units abroad employing latest techniques and management concepts.

The NBCC has made a mark for itself both in the national and international markets, particularly in Libya and Iraq. It has successfully executed a variety of works worth more than Rs 230 crores comprising industrial structures, bridges and fly-overs, airports, large housing projects and all types of buildings including hospitals, hostels, railway stations, tube railways, water supply and sewerage schemes and marine works, etc. Its present business contracts value at Rs 290 crores including an export element of about Rs 200 crores.

The NBCC has qualified and experienced personnel for planning, designing and execution of all types of civil engineering projects.

Central Public Works Department

The Central Public Works Department (CPWD) designs, constructs, maintains and repairs all works and buildings of the central government, except those belonging to the railways, communications, atomic energy, defence services and All India Radio. It also maintains national highways in Delhi and exercises technical control over the public works departments of union territories. Public undertakings

which do not have their own civil engineering organisations, have to entrust their construction works to CPWD or public sector construction and consultancy organisations. The CPWD also works on behalf of semi-government organisations on a deposit basis.

The Central Public Works Department has developed considerable expertise in the architectural landscaping, structural and horticultural fields, as well as in civil construction and the installation of services. The Department has a well-developed architectural wing, a central designs organisation for complex structural design work, field units for the execution of projects, and an electrical and mechanical wing to handle a variety of service installations.

STATE SECTOR SCHEMES

The Integrated Subsidised Housing scheme, which came into operation in 1952, is intended for low-paid industrial workers and other economically weaker sections of the community. The income limit for eligibility for initial allotment of houses built under the scheme is Rs 500 per month, subject to payment of some additional charges by allottees in the income group between Rs 351 and Rs 500 per month. Up to 31 December 1980, 1,87,580 houses had been constructed.

The Low Income Group Housing scheme started in 1954, enables persons (or their cooperatives) whose income does not exceed Rs 7,200 per annum to get loans for constructing houses. The amount of the loan is restricted to 80 per cent of the cost of construction of a house (including the cost of developed land), subject to a maximum of Rs 14,500. Up to 31 December 1980, construction of 3,37,470 houses had been completed.

The Middle Income Group Housing scheme, launched in 1959, is generally financed from the funds made available by the Life Insurance Corporation as loans to state governments. In the union territories, the funds are provided by the central government. Loans are available under the scheme to individuals whose income is in the range of Rs 7,201 to Rs 18,000 per annum for the construction of houses. The loans are restricted to 80 per cent of the cost of a house, subject to a maximum of Rs 27,500. Loans are also given to eligible persons for the purchase of ready built houses. Up to 31 December 1980, 43,627 houses had been constructed.

The Village Housing Project scheme provides for the grant of loans for construction of houses by villagers to the extent of 80 per cent of the cost of construction, subject to a maximum of Rs 5,000 and also for providing streets and drains to improve the environmental hygiene of the villages. Up to 31 December 1980, about 69,914 houses had been constructed.

The Rental Housing scheme for state government employees was introduced in 1959. Under the scheme, state governments construct residential accommodation and rent it out to their employees. Up to 31 December 1980, 34,213 houses had been completed.

The Land Acquisition and Development scheme, started in 1959, enables state governments and administrations in the union territories to acquire and develop land in urban areas so that developed plots can be made available at reasonable prices to intending house builders, particularly those in the lower income groups. Its object is to stabilise land prices, nationalise urban development and promote self-contained composite housing colonies. Up to 31 December 1980, about 13,723 hectares of land had been acquired and 7,243 hectares developed by various state governments.

**CENTRAL
SECTOR
SCHEMES**

The subsidised housing scheme for plantation workers is in operation since 1956. Under the scheme, the central government pays 50 per cent loan and 37½ per cent grant for construction of accommodation for allotment free of rent to plantation labour, which is concentrated in six states namely, Assam, Karnataka, Kerala, Tamil Nadu, Tripura and West Bengal. Cooperatives of plantation workers receive financial assistance up to 90 per cent of the approved cost of a project : 65 per cent as loan and 25 per cent as subsidy.

The central government also has a scheme under which it grants loans to its employees, including those governed by the Payment of Wages Act, on the basis of a welfare scheme sanctioned in 1956 for building houses and for the purchase of ready built houses. From 1 April 1978, loan sanctioning powers were delegated to the ministries/departments. The budget and allotment of funds are controlled by the Works and Housing Ministry. A provision of Rs 32.50 crores was made for 1980-81.

**House Sites for
Landless Workers**

The scheme for provision of house sites to landless workers in rural areas is a part of the National Minimum Needs Programme. It had been transferred from the central sector to the state sector with effect from the date of commencement of the Fifth Plan, *i.e.* 1 April 1974.

Up to 30 September 1980, about 77.92 lakh families had been allotted house-sites in different states and union territories. The scope of the scheme has since been widened to cover construction assistance also. So far 9.62 lakh families have been able to construct their dwelling units in 12 states and 4 union territories.

Sixth Five Year Plan envisages to provide sites to all the remaining 68 lakh landless families and financial assistance for house construction to 36 lakh families at a total cost of Rs 353.50 crores. Provision is being made for Rs 250 per family for developed plots, approach roads and a masonry tube-well for each cluster of 30 to 40 houses. Construction assistance is expected to amount to Rs 500 per family.

URBAN DEVELOPMENT

In India, the concept of planned urban development is of recent origin. Although development schemes for urban areas were drawn up and implemented from the beginning of the Five Year Plans, the need for planned urban development was recognised only in the Third Plan when an allocation of Rs 3 crores was made by the central government for giving grants to state governments for this purpose. Till March 1969, the scheme for urban development continued as a centrally-sponsored programme. From 1 April 1969, the preparation of Master and Regional plans was transferred to state governments with the central government acting only in an advisory capacity. The Sixth Plan has a provision of Rs 997.53 crores for urban development.

**TOWN AND
COUNTRY
PLANNING
ORGANISATION**

The Town and Country Planning Organisation is a technical advisory body on all matters pertaining to urban and regional development. It provides technical guidance and assistance to all state governments and union territories. It also undertakes project work for development on consultancy basis from public undertakings and local bodies.

**Socialisation of
Urban Land**

The Urban Land (Ceiling and Regulation) Act came into force on 17 February 1976.

It seeks to curb speculation and to implement the policy of socialisation of urban land. The Act puts a ceiling on the ownership of urban vacant land on a graded basis. It also empowers the concerned state governments to acquire vacant land in excess of the ceiling limits, prescribes compensation payable thereof, grants exemption and restricts the plinth area of future construction of dwelling units.

While the responsibility for administering the Act vests in the state government, with a view to facilitating expeditious implementation of the objectives of the Act, the Government of India had set up a central coordination committee, with the representatives of the states and union territories serving on it. This committee has been replaced by four regional committees. These committees review the progress in the implementation of the Act and suggest measures for resolving the difficulties, if any, that may be encountered by the states. A series of guidelines clarifying the intent and purport of the provisions of the Act have been issued to the state governments which in turn have laid down further guidelines.

As a result of the implementation of the Act, excess vacant land to the extent of 1,925 hectares has vested in the states of Andhra Pradesh, Bihar, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh and West Bengal. So far 18,751 exemptions have been granted for industrial and other purposes covering 38,599 hectares of land. The Act provides for granting permission to hold lands in excess of the ceiling limit for utilising it for the construction of accommodation for the weaker sections of the society. 1,132 schemes covering 1,794 hectares and envisaging 1,63,300 dwelling units have been approved so far by the states etc.

National Capital Region

Among the important programmes on which work is in progress is the National Capital Region Plan around Delhi which covers an area of about 30,000 sq km in the union territory of Delhi and parts of Haryana, Rajasthan and Uttar Pradesh. The plan envisages integrated regional development programmes for drinking water supply, drainage, power supply, community facilities and service over the whole region.

Up to the end of 1979-80 a sum of Rs 638.40 lakh had been sanctioned as loan by the Government of India to the governments of Uttar Pradesh, Rajasthan and Haryana for the development of ring towns of Meerut, Alwar, Gurgaon, Panipat and Hapur.

Development of Metropolitan Cities

For development of metropolitan cities and areas of national importance, a new central sector scheme was included in the Fifth Plan. Under the scheme, the central government supplemented the efforts of state governments in providing urban infra-structure like roads, water supply and sewerage, land acquisition and development etc. From 1974 to March 1979, the total amount of central assistance to different states was Rs 136 crores. The states were also required to spend matching funds in the selected cities towards the approved programme of integrated development. This scheme was discontinued from 1 April 1979. A new centrally sponsored scheme for the integrated development of small and medium towns with a population less than one lakh was introduced in 1979-80. During that year the projects for 31 towns in 12 states were approved and its instalment of assistance amounting to Rs 2.25 crores was released. In addition to these 31 towns, 200 towns with a population below one lakh are proposed to be developed at a cost of about Rs 200 crores during 1980-85 for

which a provision of Rs 96 crores has been made in the central sector of the Sixth Plan. Up to 31 December 1980, the projects of 11 towns were approved and central assistance of Rs 1.44 crores was released.

In Delhi, an Urban Art Commission has been set up for preserving, developing and maintaining the aesthetic quality of urban and environmental design within Delhi.

Slum Clearance and Improvement Scheme

The Slum clearance and Improvement scheme was introduced in 1956 as a centrally-sponsored programme under which financial assistance was given to states and union territories for the clearance and improvement of slum areas and rehousing of slum dwellers whose income does not exceed Rs 350 per month. From 1 April 1969 the scheme was transferred to states.

Environmental Improvement of Slums

To bring about improvement of environmental conditions in slum areas, a programme known as the Central Scheme for Environmental Improvement in Slum Areas was launched in 1972 in ten cities, namely, Ahmedabad, Bombay, Bangalore, Delhi, Hyderabad, Kanpur, Lucknow, Madras, Nagpur and Pune. During 1973-74, ten more cities, viz., Calcutta, Cochin, Cuttack, Gauhati, Indore, Jaipur, Ludhiana, Patna, Rohtak and Srinagar were also covered under the scheme. The concerned state governments were given full financial assistance for the provision of drinking water, sewerage and drains, community baths and latrines, street lighting and widening and paving of existing lanes in slum areas. Till 31 March 1974, 854 projects worth over Rs 24.60 crores had been sanctioned. A sum of over Rs 20.23 crore was released to the states in respect of these projects. Out of this an expenditure of over Rs 14.21 crores had been incurred by the end of March 1974.

The scheme was transferred from the central sector to the state sector from 1 April 1974 to be implemented by state governments as one of the Minimum Needs Programme. The operation of this scheme was extended to cover cities with population of three lakhs and above, or one city in each state where the scheme has not so far been extended. Now, it covers all urban areas irrespective of their size or population.

Jhuggi and Jhonpri Removal Scheme

The Jhuggi and Jhonpri Removal scheme is designed to provide alternative accommodation to unauthorised occupants of government and public lands in Delhi and New Delhi. About two lakh tenements and plots have been constructed/developed under the scheme so far.

Delhi Land Acquisition Scheme

A scheme known as the Large Scale Acquisition, Development and Disposal of Land is in force in Delhi. Under the scheme, land measuring about 17,228 hectares has been acquired so far. Of this, 13,576 hectares have been allotted to the Delhi Development Authority/Municipal Corporation of Delhi and about 3,652 hectares to various co-operative house building societies, semi-government organisations, etc.

The Constitution of the Republic of India guarantees, besides other rights, safeguards against arbitrary deprivation of life and personal liberty by providing in article 21 that no person shall be deprived of his life or personal liberty except according to procedure established by law.

The adoption of a republican Constitution by India in 1950 did not disturb the continuity of the existing laws and the unified structure of the courts. Article 372 provides that notwithstanding the repeal of the Government of India Act, 1935 and the Indian Independence Act, 1947, but subject to the other provisions of the Constitution, all laws which were in force immediately before its commencement, shall continue to be in force until altered, repealed or amended by a competent legislature or authority. Article 375 provides that "All courts of civil, criminal and revenue jurisdiction, all authorities, and all officers, judicial, executive and ministerial throughout the territory of India, shall continue to exercise their respective functions subject to the provisions of the Constitution". The unity and the uniformity of the judicial structure was preserved by placing such areas of law like criminal law and procedure, civil procedure, wills, succession, contracts including special form of contract, but not including contract relating to agricultural land, registration of deeds and documents, evidence etc. in the Concurrent List.

Sources of Law

The main sources of law in India are the Constitution statutes (legislation), customary law and case law. The statutes are enacted by Parliament, the state legislatures and the union territory legislatures. Then, there is a vast body of laws known as subordinate legislation in the form of rules, regulations as well as bye-laws which are made by the central and state governments and local authorities like municipal corporations, municipalities, village panchayats and other local bodies etc. This subordinate legislation is made under the authority conferred or delegated either by Parliament or the state or union territory legislatures concerned. Judicial decisions of the superior courts like the High Courts and the Supreme Court are an important source of law. The law declared by the Supreme Court is binding on all courts within the territory of India. As India is a land of diversities, local customs and conventions which are not against statute, morality etc., are to a limited extent also recognised and taken into account by the courts while administering justice in certain spheres.

Parliament is competent to make laws on the matters enumerated in the Union List. The state legislatures are competent to make laws on matters enumerated in the State List. Parliament alone has power to make laws on matters not included in the State List or Concurrent List. On matters enumerated in the Concurrent List, laws can be made both by Parliament as well as state legislatures. But in the event of repugnancy, the law made by Parliament shall prevail and the law made by the state legislature to the extent of the repugnancy, be void, unless, the latter law having been reserved for the consideration of the President, has received his assent, and in that event it shall prevail in that state.

Laws made by Parliament may extend throughout or any part of the territory of India and those made by state legislature may generally apply only within the territory of the state concerned. Hence, variations are likely to exist from state to state in the provisions of law relating to matters falling within the State and Concurrent Lists.

One of the unique features of the Indian Constitution is that notwithstanding the adoption of a federal system and the existence of Central Acts and State Acts in their respective spheres, it has generally provided for a single integrated system of courts to administer both the Union and the State laws. At the apex of the entire judicial system exists the Supreme Court of India with a High Court for each state or group of states and under the High Courts, there is a hierarchy of subordinate courts.

There is generally separation of judiciary from executive. The *panchayat* courts also generally function in some states under the various names like *Nyaya Panchayat*, *Panchayat Adalat*, *Gram Kuchari*, etc., to decide civil and criminal disputes of petty and local nature. The different State Laws provide for different kinds of jurisdiction of the courts.

Each State is divided into judicial districts presided over by a district and sessions judge who is the principal civil court of original jurisdiction and can try all offences including those punishable with death. He is the highest judicial authority in a district. Below him, there are courts of civil jurisdiction, known variously in different states as *munsiffs*, *sub-judges*, *civil judges* and the like. Similarly, the criminal judiciary consists of chief judicial magistrate and judicial magistrates of the first and the second class.

A detailed account of the Supreme Court of India, High Courts and Subordinate Courts is given below.

JUDICIARY

Supreme Court

The Supreme Court of India consists of a Chief Justice and not more than 17 other judges appointed by the President. The judges hold office till the age of 65. For appointment as a judge of the Supreme Court, a person must be a citizen of India and must have been for at least five years a judge of a High Court or of two or more such courts in succession; or an advocate of a High Court or of two or more such courts in succession for at least ten years or he must be in the opinion of the President, a distinguished jurist. Provision exists for the appointment of a judge of a High Court as an *ad-hoc* judge of the Supreme Court and for retired judges of the Supreme Court or High Courts to sit and act as judges of that Court.

The Constitution seeks to ensure the independence of the Supreme Court judges in various ways. A judge of the Supreme Court cannot be removed from office except by an order of the President passed after an address in each House of Parliament supported by a majority of the total membership of that House and by a majority of not less than two-thirds of the members present and voting, has been presented to the President in the same session for such removal, on the ground of proved misbehaviour or incapacity. A person who has been a judge of the Supreme Court is debarred from practising in any court of law or before any other authority in India.

The membership of the Court as on 31st January 1981 was :
 Chief Justice : Y. V. Chandrachud; Judges : P. N. Bhagwati, A. C. Gupta, S. Murtaza Fazal Ali, V. D. Tulzapurkar, D. A. Desai, R. S. Pathak, A. D. Koshal, O. Chinnappa Reddy, A. P. Sen, E. S. Venkata-ramiah, Baharul Islam, A. Varadarajan, A. N. Sen, V. B. Eradi and R. B. Misra.

Jurisdiction of
 the Supreme
 Court

The Supreme Court has original, appellate and advisory jurisdiction. Its exclusive original jurisdiction extends to any dispute between the union and one or more states, or between the union and any state or states on one side and one or more other states on the other; or between two or more states, if and in so far as the dispute involves any question (whether of law or of fact) on which the existence or extent of a legal right depends. In addition, Article 32 of the Constitution gives an extensive original jurisdiction to the Supreme Court in regard to the enforcement of Fundamental Rights. It is empowered to issue directions or orders or writs, including writs in the nature of *habeas corpus*, *mandamus*, prohibition, *quo-warranto* and *certiorari* to enforce them.

The Supreme Court has been conferred powers to direct the transfer of any civil/criminal case from one state High Court to another state High Court or from a court subordinate to one state High Court to a court of competent jurisdiction subordinate to another state High Court. The Supreme Court, if satisfied, that cases involving the same or substantially the same questions of law are pending before it and in one or more High Courts or before two or more High Courts and that such questions are substantial questions of general importance, may withdraw the case or cases pending before the High Court or High Courts and dispose of all the cases itself.

The appellate jurisdiction of the Supreme Court can be invoked by the certificate of the High Court concerned or by special leave granted by the Supreme Court, in respect of any judgment, decree or final order of the High Court in cases both civil and criminal, involving substantial questions of law as to the interpretation of the Constitution. Appeals also lie to the Supreme Court in civil matters if the High Court concerned certifies (a) that the case involves a substantial question of law of general importance, and (b) that in the opinion of the High Court the said question needs to be decided by the Supreme Court. In criminal cases an appeal lies to the Supreme Court, if the High Court (a) has on appeal reversed an order of acquittal of an accused person and sentenced him to death or to imprisonment for life or for a period of not less than 10 years, or (b) has withdrawn for trial before itself any case from any court subordinate to its authority and has in such trial convicted the accused person and sentenced him to death or to imprisonment for life or for a period of not less than 10 years, or (c) certifies that the case is a fit one for appeal to the Supreme Court. Parliament is authorised to confer on the Supreme Court any further powers to entertain and hear appeals from any judgment, final order or sentence in a criminal proceeding of a High Court.

The Supreme Court has also a very wide appellate jurisdiction over all courts and tribunals in India inasmuch as it may, in its discretion, grant special leave to appeal from any judgment, decree, determination, sentence or order in any cause or matter passed or made by any court or tribunal in the territory of India.

It has a special advisory jurisdiction in matters which may specifically be referred to it by the President under Article 143 of the Constitution.

Appeals also lie to the Supreme Court under the Representation of People Act, Monopolies and Restrictive Trade Practices Act, the Advocates Act, the Contempt of Courts Act etc.

High Courts

Every state has a High Court which stands at the head of the state's judicial administration. There are 18 High Courts in the country, including two having jurisdiction over more than one state. Among the union territories, Delhi alone has a High Court of its own. Goa, Daman and Diu has a judicial commissioner while the other seven union territories come under the jurisdiction of different state High Courts. Each High Court consists of a Chief Justice and such other judges as the President may from time to time, appoint. The Chief Justice of High Court is appointed by the President in consultation with the Chief Justice of India and the Governor of the state. The procedure for appointing other judges is the same except that the Chief Justice of the High Court concerned is also consulted. They hold office until they attain the age of 62 and are removable in the same manner as a judge of the Supreme Court of India. To be eligible for appointment as a judge, one must have held a judicial office in India for ten years or must have practised as an advocate of a High Court or two or more such courts in succession for a similar period.

Every High Court has the power to issue to any person or authority and government within its jurisdiction directions, orders or writs (including writs which are in the nature of *habeas corpus*, *mandamus*, prohibition, *quo warranto* and *certiorari*, or any of them) for the enforcement of any of the Fundamental Rights and for any other purpose.

This power may also be exercised by any High Court exercising jurisdiction in relation to the territories within which the cause of action, wholly or in part, arises for the exercise of such power, notwithstanding that the seat of such government or authority or the residence of such persons is not within those territories.

The High Courts have powers of superintendence over all courts within their jurisdiction. They can call for returns from such courts, make and issue general rules and prescribe forms to regulate their practices and proceedings and determine the manner and form in which books, entries and accounts shall be kept.

Table 24.1 gives the seat and territorial jurisdiction of the High Courts.

Subordinate Courts

Subject to minor variations, the structure and functions of the Subordinate Courts are more or less uniform throughout the country. A state is divided into a number of districts, each under the jurisdiction of a principal civil court presided over by a district judge. Sometimes he is assisted by additional district judges. Subordinate to a district judge is a hierarchy of different grades of civil courts.

Besides hearing suits, the civil courts exercise jurisdiction over several matters such as arbitration, guardianship, marriage, divorce and probate. Quasi-judicial tribunals distinct from the ordinary courts have also been set up under certain special Acts for determining some types of civil rights. In some cases appeals lie from their orders to the ordinary civil courts. Every High Court exercises the power of

TABLE 24.1
JURISDICTION AND
SEAT OF HIGH
COURTS

Name	Year of establish- ment	Territorial Jurisdiction	Seat of the Court
Allahabad	1866	Uttar Pradesh	Allahabad (Bench at Lucknow)
Andhra Pradesh	1954	Andhra Pradesh	Hyderabad
Bombay	1861	Maharashtra and Dadra and Nagar Haveli	Bombay (Bench at Nagpur)
Calcutta	1861	West Bengal and Andaman and Nicobar Islands	Calcutta
Delhi	1966	Delhi	Delhi
Gauhati	1972	Assam, Manipur, Meghalaya, Naga- land, Tripura, Mizoram and Arunachal Pradesh	Gauhati, (Tempo- rary Benches at Imphal, Agartala and Kohima)
Gujarat	1960	Gujarat	Ahmedabad
Himachal Pradesh	1971	Himachal Pradesh	Simla
Jammu and Kashmir	1928	Jammu and Kashmir	Srinagar and Jammu
Karnataka	1884	Karnataka	Bangalore
Kerala	1956	Kerala and Lakshadweep	Ernakulam
Madhya Pradesh	1956	Madhya Pradesh	Jabalpur (Benches at Gwalior and Indore)
Madras	1861	Tamil Nadu and Pondicherry	Madras
Orissa	1948	Orissa	Cuttack
Patna	1916	Bihar	Patna (Bench at Ranchi)
Punjab and Haryana	1947	Punjab, Haryana and Chandigarh	Chandigarh
Rajasthan	1949	Rajasthan	Jodhpur (Bench at Jaipur)
Sikkim	1975	Sikkim	Gangtok

superintendence over all courts subordinate to it subject to its appellate jurisdiction.

The Constitution and organisation of criminal courts and their procedure are regulated by the Code of Criminal Procedure, 1973 which came into force with effect from 1 April 1974, repealing the Code of Criminal Procedure, 1898. The Code provides separate sets of magistrates for the discharge of the executive and judicial functions. Magistrates, both executive and judicial, in so far as their judicial work is concerned, are subject to the superintendence and control of the High Court. There is a district magistrate and under him a number of subordinate magistrates. These magistrates continue to deal with problems relating to the maintenance of law and order and the prevention of crime. On the judicial side, the judicial hierarchy of magistrates consist of the chief judicial magistrate at the district level and the judicial magistrates of the first class and second class. Broadly speaking, magisterial functions, which are essentially judicial in nature, are the concern of the judicial magistrates. In metropolitan areas with a population of more than 10 lakhs, there are metropolitan magistrates who have larger powers for quicker disposal of cases.

As on 31 December 1979, subordinate courts functioning in the country, at district-level, were : 2,149 district/additional district and sessions judges and assistant sessions judges/subordinate judges and 4,307 munsifs/magistrates.

Reform in Criminal Procedure

Radical changes in the criminal procedure have been made by the new Code of Criminal Procedure, 1973. Some more amendments were made in 1978 and 1980. The new Code makes several important changes designed to expedite the disposal of cases, to improve efficiency, to prevent abuses and to afford relief to the poorer sections of the community.

Attorney-General The Attorney-General for India is appointed by the President and holds office during the pleasure of the President. He must be a person qualified to be appointed as a judge of the Supreme Court. It is the duty of the Attorney-General of India to give advice to the Government of India upon such legal matters, and to perform such other duties of legal character, as may be referred or assigned to him by the President. In the performance of his duties, he has the right of audience in all courts in India as well as the right to take part in the proceedings of Parliament without the right to vote.

In the discharge of his functions, the Attorney-General is assisted by a Solicitor General and two Additional Solicitor Generals.

Advocate-General There is an Advocate-General for each state, appointed by the Governor and he holds office during the pleasure of the Governor. He must be a person qualified to be appointed as a judge of a High Court. His duty is to give advice to the state government upon such legal matters, and to perform such other duties of a legal character, as may be referred or assigned to him by the Governor. The Advocate-General has the right to speak and take part in the proceedings of the state legislature without the right to vote.

Legal Profession In India, the law relating to the legal profession is governed by the Advocates Act, 1961, and the rules framed by the Bar Council of India, thereunder. It is a self contained code of law relating to legal practitioners and for the constitution of State Bar Councils and the Bar Council of India.

There is only one class of persons entitled to practice the profession of law, namely, persons enrolled as advocates under the Advocate Act with one of the State Bar Councils. The dual system of attorney and advocate which was in existence in the High Courts of Bombay and Calcutta had been abolished with effect from 15 October 1976. There are two classes of advocates—"senior advocates" and "other advocates". The roll of advocates of each State Bar Council shall contain two parts—part I containing the names of "senior advocates" and part II containing the names of "other advocates". No person shall be enrolled as an advocate on the roll of more than one State Bar Council. An advocate may with his consent be designated as senior advocate, if the Supreme Court or a High Court is of opinion that by virtue of his ability, standing at the bar or special knowledge or experience in law, deserved such distinction.

Some of the restrictions on a senior advocate in the matter of his practice are, that he shall not file a *vakalatnama*; he shall not appear without an advocate on record; he shall not accept instruction to draft pleadings etc., without the consultation of an advocate in Part II of

the state roll; he shall not accept directly from a client any brief, or instructions to appear in a court etc.

An advocate on the roll of one State Bar Council may apply for transfer to any other State Bar Council in the prescribed manner. Certain standards of education etc. have been prescribed for enrolment as advocates. There are certain rules regulating the standards of professional conduct and etiquette.

Every advocate shall bear in mind that any one genuinely in need of a lawyer is entitled to legal aid even though he cannot pay for it fully or adequately, and within the limits of an advocate's economic condition, free legal assistance to the indigent and oppressed is one of the higher obligations an advocate owes to society.

The Bar Councils have disciplinary jurisdiction over advocates on their rolls. This is subject to a right of appeal to the Bar council of India and a further right of appeal to the Supreme Court of India.

The government brought amendment in respect of section 17 of the Advocates Act, 1961 relating to seniority of attorneys and also to section 23 of the Act conferring right of pre-audience to the second Additional Solicitor General of India over all other advocates and the said amendments have been brought into force.

LAW COM- MISSION

The need for periodical revision of the form and content of the law has been recognised for a long time in all countries. Changing social and economic conditions as well as changed concepts on certain ethical issues necessitate a review of the existing laws from time to time. Without a standing body which would be entrusted with a systematic review of the law, this work cannot be performed satisfactorily. This has been the basic philosophy underlying the move for the creation of law commissions in various countries.

In India, the Law Commission was first constituted in 1955 and has, since then, been reconstituted from time to time. The principal function of the Law Commission may be described as bringing the law up to date.

The Law Commission was last re-constituted for a further period of three years from 1 September 1977 to the end of August 1980 and consists of a retired Judge of a High Court as chairman, two full-time members and one member secretary of the status of a secretary to the Government of India. The terms of reference of the Law Commission were :

To keep under review the system of judicial administration to ensure that it is responsive to the reasonable demands of the time and in particular to secure—

- (a) elimination of delays, speedy clearance of arrears and reduction in costs so as to secure quick and economical disposal of cases without effecting the cardinal principle that decisions should be just and fair;
- (b) simplification of procedure to reduce and eliminate technicalities and devices for delay so that it operates not as an end in itself but as a means of achieving justice; and
- (c) improvement of standards of all concerned with the administration of justice.

To examine the existing laws in the light of Directive Principles of State Policy and to suggest ways of improvement and reform and also to suggest such legislation as might be necessary to implement the

Directive Principles and to attain the objectives set out in the Preamble to the Constitution.

To revise the Central Acts of general importance so as to simplify them and to remove anomalies, ambiguities and inequities.

To consider and to convey to the government its views on any other subject relating to law and judicial administration that may be referred to it.

Between January and August 1980, the Commission forwarded to the government six reports (82 to 87) which were laid before both the Houses of Parliament. The 71st report of the Commission on the Hindu Marriage Act, 1955 relating to irretrievable breakdown of marriage as an additional ground of divorce is being implemented by the government and a bill has been introduced to this effect in the Lok Sabha.

PERSONAL LAW

In India, there are people of different religions and faiths. They are governed by different set of personal laws in respect of matters relating to family affairs, i.e. marriage, divorce, succession, etc. As regards matters relating to contract, crime, evidence, property, etc., they are governed by uniform set of laws irrespective of their religious faith and beliefs. A short resume is given below in respect of personal laws that are prevalent in India at present.

Marriage

The law relating to marriage has been codified in different Acts applicable to people of different religions. These are :—

- (1) The Hindu Widows Remarriage Act, 1856; (2) The Converts' Marriage Dissolution Act, 1866; (3) The Indian Divorce Act, 1869; (4) The Indian Christian Marriage Act, 1872; (5) The Kazis Act, 1880; (6) The Anand Marriage Act, 1909; (7) The Child Marriage Restraint Act, 1929; (8) The Parsi Marriage and Divorce Act, 1936; (9) The Dissolution of Muslim Marriages Act, 1939; (10) The Special Marriage Act, 1954; (11) The Hindu Marriage Act, 1955; and (12) The Foreign Marriage Act, 1969.

The Special Marriage Act, 1954, extends to the whole of India except the State of Jammu and Kashmir and also applies to citizens of India domiciled in the territories to which the Act extends who are in the State of Jammu and Kashmir. Persons governed by this Act can specifically register the marriage under the said Act even though they are of different religious faiths. The Act also provides that marriages celebrated under any other form can also be registered under the Special Marriage Act if it satisfies the requirements of the Act.

The Hindu Marriage Act, 1955, which extends to the whole of India except the State of Jammu and Kashmir, applies also to Hindus domiciled in territories to which the Act extends who are outside the said territories. It applies to Hindus of all denominations, including Buddhists, Sikhs, Jains, and all those who do not profess to be Muslims, Christians or Parsis or Jews. However, the Act does not apply to the members of any Scheduled Tribes unless the government otherwise directs. An attempt has been made to codify the customary law which is prevalent in Hindus by enacting the Hindu Marriage Act, 1955. However in spite of this codification, the courts in this country have always held that

‘the concept of marriage under the Hindu law, however, has

not undergone any radical change by the enactment of the Hindu Marriage Act. In fact, the basic structure of that concept has not at all been touched and it remains a *Sanskar* or a sacrament. To a Hindu, marriage is not a matter of agreement or contract but is a spiritual union of the two souls. Holy invocation before the fire and *saptapadi* are the minimum requisites for solemnisation of the Hindu marriage. Unless, therefore, it is established that there is a different custom which admits of any different form of marriage known to the Hindus, these rites and ceremonies will have to be established by the complainant before any claim that the spouse is guilty of the offence under section 496, Indian Penal Code, is made in such cases *vide Shakuntala vs. Neelakanth*, 1973, Maharashtra Law Journal, p. 310.

By the recent amendment made by the Marriage Laws (Amendment) Act, 1976, the grounds of divorce which were available under the Hindu Marriage Act, 1955, and the Special Marriage Act, 1954, have been further extended. The provisions in regard to divorce are contained in section 13 of the Hindu Marriage Act and section 27 of the Special Marriage Act. The common ground on which divorce could be sought by a husband or a wife under these Acts fall under the broad heads : adultery; desertion; cruelty; unsoundness of mind; venereal disease; leprosy; mutual consent and being not heard of as alive for seven years.

As regards the Christian community, the provisions relating to marriage and divorce are contained in the Indian Christian Marriage Act, 1872 and the Indian Divorce Act, 1869. The provisions in regard to divorce applicable to Christian community are contained in section 10 of the Indian Divorce Act. Under that section, a husband can seek a divorce on the ground that the wife has been guilty of adultery but the wife can seek a divorce on the ground that the husband has become convert to another religion and has gone through a marriage with another woman or has been guilty of : (a) incestuous adultery; (b) bigamy with adultery; (c) marriage with another woman with adultery; (d) rape, sodomy or bestiality; (e) adultery coupled with such cruelty as without adultery would have entitled her to a divorce, *a mensa et toro* (a system of divorce created by Roman Church equivalent to judicial separation on the grounds of adultery, perverse practices, cruelty, heresy and apostasy); (f) adultery coupled with desertion without reasonable excuse for two years or upwards.

As regard Muslims, the marriages are governed by the customary law prevalent in the country. As regards divorce, *i.e. talaq*, a Muslim wife has a much restricted right to dissolve her marriage. Unwritten and traditional law tried to ameliorate her position by permitting her to seek dissolution under the following forms :—

(a) *Talaq-i-Talwid* : This is a form of delegated divorce. According to this, the husband delegates his right of divorce in a marriage contract which may stipulate that, *inter alia*, on his taking another wife, the first wife has a right to divorce him. The courts have upheld these pre-nuptial and post-nuptial agreements as not opposed to public policy nor against the spirit of Muslim law (cf, *Saimuddin vs. Latifunnisa*, ILR (1918) 46, Cal. This right has been strengthened by the judgement of the Assam High Court by declaring that the power of *talaq* given to the wife is irrevocable (*Saifuddin vs. Soneka*, AIR (1955) Ass. 153).

(b) *Khul* : This is a dissolution by an agreement between the parties to the marriage on the wife's giving some consideration to the husband for her release from the marriage tie. The terms are a matter of bargain and usually takes the form of the wife giving up her dower.

(c) *Mubarrat* : This is divorce by mutual consent.

Further by the Dissolution of Muslim Marriages Act, 1939, a Muslim wife has been given the right to dissolve the marriage on the following grounds :

(1) that the whereabouts of the husband have not been known for a period of four years; (2) husband is not maintaining her for a period of two years; (3) imprisonment of husband for a period of seven years; (4) failure on the part of the husband to perform his marital obligations, without a reasonable cause, for a period of three years; (5) impotency of husband; (6) insanity for a period of two years; (7) suffering from leprosy or virulent venereal disease; and (8) cruelty.

The Parsi Marriage and Divorce Act, 1936, governs the matrimonial relations of the Parsis. The word Parsi is defined in the Act as Parsi Zoroastrian, both of Indian and Iranian origin. A Zoroastrian is a person who professes the Zoroastrian religion. The word 'Parsi' has a racial significance. Every marriage as well as divorce under this Act is required to be registered in accordance with the procedure prescribed in the Act. However, failure to fulfil the requirements in that behalf does not make the marriage invalid. The Act provides for monogamy.

As regards the matrimonial laws of Jews, there is no codified law in India. Even today, they are governed by their religious laws. The Jews regard marriage not as a civil contract but as a relation between two persons involving very sacred duties. Marriage can be dissolved through the courts on grounds of adultery or cruelty. The marriages are monogamous.

The Hindu Marriage Act, 1955 and the Special Marriage Act, 1954 tend to establish equality of sexes and provide for equal protection of laws to both the spouses.

As regards personal laws relating to minority communities, it has been the policy of the government to encourage reforms therein only on the initiative of those communities.

Child Marriage

The Sarada Act, i.e., the Child Marriage Restraint Act, 1929, as recently amended by Act 2 of 1978, now provides that the marriage age for male will be 21 years and that for female 18 years. This amendment has been brought into force with effect from 1 October 1978.

Adoption

Although there is no general law of adoption yet it is permitted by a statute amongst the Hindus and by custom amongst a few numerically insignificant categories of persons. Since adoption is the legal affiliation of a child, it forms the subject-matter of personal law. Muslims, Christians and Parsis have no adoption laws and have to approach the court under the Guardians and Wards Act, 1891. Muslims, Christians and Parsis can take a child under the said Act only under foster care. Once a child under the foster care becomes major, he is free to break away all his connections. Besides, such a

child does not have the legal right of inheritance.

Foreigners who want to adopt Indian children have to approach the court under the aforesaid Act. In case the court has given permission for the child to be taken out of the country, adoption according to a foreign law (*i.e.* law applicable to guardian) takes place outside the country.

The Hindu law relating to adoption has been amended and codified into the Hindu Adoption and Maintenance Act, 1956. Under the Act, the object of adoption is purely secular and is in accord with the principle of social justice.

Guardianship

In dealing with the question of guardianship of a minor child, as in other spheres of family law, there is no uniform law. Three distinct legal systems are prevalent, that is to say the Hindu law, Muslim law and the Guardians and Wards Act, 1890.

A guardian may be a natural guardian, testamentary guardian or a guardian appointed by the court. In deciding the question of guardianship, two distinct things have to be taken into account—the person of the minor and his property. Often the same person is not entrusted with both.

The Hindu Minority and Guardianship Act, 1956, has codified the laws of the Hindus. As in the case of uncodified law it has upheld the superior right of the father. It lays down that a child is a minor till the age of 18. The natural guardian for both boys and unmarried girls is first the father and after him the mother. The prior right of the mother is recognised only to the custody of children below five. In the case of illegitimate children, the mother has a better claim than the putative father. The Act makes no distinction between the 'person' of the minor and his property and therefore guardianship implies control over both. The Act directs that in deciding the question of guardianship, the courts must take the welfare of the child as the paramount consideration.

Under the Muslim law, the father enjoys a dominant position. It also makes a distinction between guardianship and custody. For guardianship, which has usually reference to the guardianship of property, according to *Sunnīs*, the father is preferred and in his absence his executor. If no executor has been appointed by the father, the guardianship passes on to the paternal grandfather. Among the *Shias* the difference is that the father is regarded as the sole guardian but after his death it is the right of the grandfather to take over the responsibility and not that of the executor. Both the schools however, agree that the father while alive is the sole guardian. The mother is not recognised as a natural guardian even after the death of the father.

As regards rights of the natural guardian there is no doubt that father's right extends both to property and person. Even when the mother has the custody of the minor child, the father's general right of supervision and control remains. The father, can however, appoint the mother as a testamentary guardian. Thus though the mother may not be recognised as a natural guardian, there is no objection to her being appointed under the father's will.

Muslim law recognises that mother's right to custody of minor children (*Hizanat*) is an absolute right. Even the father cannot deprive her of it. Misconduct is the only condition which can deprive the mother of this right. As regards the age at which the

right of the mother to custody terminates, the *Shia* school holds that the mother's right to *hizanat* is only during the period of weaning which is over when the child has completed the age of two, whereas the *Hanafi* school extends the period till the minor son has reached the age of seven. In case of girls the *Shia* law upholds the mother's right till the girl reaches seven and the *Hanafi* school till she attains puberty.

Guardians and Wards Act, 1890

This Act governs all communities. It clearly lays down that the father's right is primary and no other person can be appointed unless the father is found unfit. This Act also provides that the court must bear in mind the welfare of the child.

Maintenance

The obligation of the husband to maintain the wife arises out of the status of the marriage. The right to maintenance forms a part of the personal law and to that extent it is not uniform, but uniform provisions are contained in sections 125 to 128 of the Code of Criminal Procedure, 1973.

Under the Code of Criminal Procedure, the right of maintenance extends not only to wife, dependant children but also to indigent parents and to divorced wives. The claim of the wife etc., however, depends on the husband having sufficient means. The claim of maintenance for all dependant persons is limited to Rs 500 per month. The inclusion of the right of maintenance under the Code of Criminal Procedure has the great advantage of making the remedy both speedy and cheap. However, divorced wives who have received money payable under the customary personal law are not entitled to claim maintenance under the Criminal Procedure Code.

Under Hindu law, the wife has an absolute right to claim maintenance irrespective of the husband having adequate means. But she loses her right if she deviates herself from the path of chastity. Even a single lapse from chastity on her part may affect her right detrimentally. Her right to maintenance is codified in the Hindu Adoptions and Maintenance Act, 1956. In assessing the amount of maintenance, the court takes into account various factors like the position and status of the parties, the reasonable wants of the claimant and the obligations and liabilities of the husband. It also judges whether the wife is justified in living apart from the husband. The justifiable reasons are spelt out in the Act.

Maintenance *pendente lite* (pending the suit) and even the expenses of a matrimonial suit will be borne by either husband or the wife if the other spouse has no independent income for his or her support. The same principle will also govern the payment of permanent maintenance.

Under the Muslim law, the failure of the husband to maintain his wife for two years entitles her to get a divorce. Her right to maintenance lasts only as long she remains a wife. If she is divorced, she loses her right of maintenance and is only entitled to it for three months *i.e.* the period of *iddat*. After this period, she has no further claim.

The Parsi Marriage and Divorce Act, 1936 recognises only the right of the wife to maintenance—both alimony *pendente lite* as well as permanent alimony.

The maximum amount that can be decreed by the court as ali-

mony during the time a matrimonial suit is pending in court is 1/5th of the husband's net income. In fixing the quantum as permanent maintenance, the court will determine what is just bearing in mind the ability of the husband to pay, the wife's own assets and the conduct of the parties. The order will remain in force as long as the wife remains chaste and unmarried.

The Indian Divorce Act, 1869 governs the maintenance rights of a Christian wife. The provisions are the same as those under the Parsi Law, and the same considerations are applied in granting maintenance, both alimony *pendente lite* as well as permanent maintenance.

SUCCESSION

Prior to 1925, there were a number of statutes dealing with succession. In 1925, the Indian Succession Act was enacted. The object of the Act was to consolidate the large number of laws which were in existence at that time. The laws governing succession to Muslims and Hindus were excluded from the purview of the Act. While consolidating the law in respect of succession, two schemes, one relating to succession to the property of persons, like Indian Christians, Jews and persons married under the Special Marriage Act, 1955 and another relating to succession rights of Parsis were adopted.

In the first scheme, *i.e.*, persons who were not Parsis, when a person dies intestate leaving a widow and lineal descendant, she would be entitled to a fixed share of one-third of the property and the children, irrespective of their sex, would share equally. This law was amended subsequently with the object of improving the rights of the widow and it was provided that where the intestate died leaving a widow and no lineal descendant and the net value of the estate does not exceed Rs 5,000, she would be entitled to the whole of his property. Where the net value of the estate exceeds Rs 5,000, she is entitled to a charge for a sum of rupees five thousand with interest at four per cent till payment and in the residue she is entitled to her share.

The Act imposes no restriction on the power of a person to will away his property.

Under the second scheme, the Act provides for Parsi intestate succession. A feature of the rule governing the Parsi intestate is that like the Hindu law and unlike the Muslim law, there are separate rules for the devolution of the property of male and female Parsi intestates. For example, if a male Parsi dies leaving a widow and children, the property will be divided so that the share of each son and widow will be double the share of each daughter. Further, when a male Parsi dies leaving one or both parents in addition to a widow and children, the property will be so divided that the father shall receive a share equal to half the share of a son and the mother will receive a share equal to half the share of a daughter.

Hindu Law of Succession

The Hindu law of succession was governed, previous to the enactment of Hindu Succession Act, 1956 by the customary law of Hindus. The most remarkable features of the Act, however, are the recognition of the right of women to inherit the property of an intestate equally with men and the abolition of the life estate of female heirs.

Muslim Law of Succession

A vast majority of Muslims in India follow the *Hanafi* doctrines of *Sunni* law and the courts presume that muslims are governed by the *Hanafi* law unless it is established to the contrary. Though there are

many features in common between the *Shia* and the *Sunni* schools, there are differences in some respects. The *Sunni* law regards the Koranic verses of inheritance as an addendum to the pre-Islamic customary law and preserves the superior position of male agnates.

Unlike Hindu and Christian law, Muslim law restricts a person's right of testation. A Muslim can bequeath only one-third of his estate. A bequest to a stranger is valid without the consent of heirs if it does not exceed a third of the estate, but a bequest to a heir without the consent of other heirs is invalid. The consent of heirs to a bequest must be secured after the succession has opened and any consent given to a bequest during the lifetime of the testator can be retracted after his death. The *Shia* law allows the Muslims the freedom of bequest within the disposable third.

Legal Aid to the Poor

The fundamental entitlement of legal aid is set out in article 14 of the Constitution which enjoins the State not to deny to any person equality before the law or the equal protection of laws. And then under Article 22 the State is bound to see that every arrestee has the facility to consult and to be defended by a legal practitioner of his choice. Government being anxious that comprehensive legal aid schemes should be formulated and implemented in the country without delay, constituted a small high power committee under the chairmanship of Justice P. N. Bhagwati, Judge of the Supreme Court. The Committee has started functioning and a model scheme for adoption by the states and union territories has been formulated.

POLICE AND PRISONS

Police

The police force in the country is enjoined with the responsibility of maintenance of Public order and prevention and detection of crimes. Public order and police being state subjects under the constitution, police in India is maintained and controlled by the states.

The head of police force in a state is the Inspector General of Police. The state is divided into convenient territorial divisions called 'Ranges' and each police range is under the administrative control of a deputy inspector general of police. A number of districts constitute the Range. The district police is further sub-divided into police divisions, circles and police stations. Besides civil police, the states also maintain their own armed police and have got separate intelligence branches, crime branches etc.

The police set up in big cities like Delhi, Calcutta, Bombay, Madras, Bangalore, Hyderabad, Ahmedabad and Nagpur, is directly under a commissioner of police who enjoys magisterial powers.

All senior police posts in the various states are included in the state IPS cadres to which recruitment is made on an all-India basis. Recruitment, promotion and cadre control in respect of the lower posts from police constables upto deputy superintendent of police are done by the state governments themselves.

The central government maintains a number of central forces, which are in the nature of other armed forces of the union. Besides the Central Bureau of Intelligence (IB), Central Bureau of Investigation (CBI), a number of institutions for the training of police officers and for scientific or technical assistance in the investigation and detection of crimes are maintained by the central government.

Intelligence Bureau

The primary function of the Intelligence Bureau is to collect, collate, assess and disseminate intelligence relating to national security and other matters affecting the security of the country. The Intelligence Bureau liaises with departments of the Government of India for this purpose and also coordinates the activities of the special branches of the criminal investigation/intelligence departments in the states. It is headed by a Director.

Central Bureau of Investigation

Created in 1963, the CBI, undertakes investigation of important cases concerning public servants in the employ of the central government and its corporate undertakings, and also cases having inter-state or international ramifications. It is headed by a Director.

During 1980 (upto October) the CBI indexed 2,135 new criminals involved in international crimes, 5,599 new criminals involved in inter-state crimes, and 18,994 new items of property. The Bureau received 412 finger prints from various national crime bureaux for verification. It also received 464 Interpol notices for circulation to various agencies.

Border Security Force

The Border Security Force (BSF), which was raised on 1965, is charged with the task of maintaining permanent vigilance on India's international borders, specially along Pakistan and Bangladesh. Its statutory functions are; (i) to promote a sense of security among the people living in the border areas; (ii) to prevent trans-border crimes, unauthorised entry into or exit from the territory of India; and (iii) to prevent smuggling and any other illegal activity. In addition, the Force during the period of war has a supplementary role with the Army and functions direct under the operational control of the Army. Being an armed force BSF units are called upon to undertake various internal security duties and are also employed in aid to civil administration.

The Force Headquarters, located in Delhi, is headed by a Director-General. It maintains adequate liaison with other forces operating on the border areas like customs, revenue intelligence and local police authorities. Maintenance of boundary pillars is an additional task which is undertaken in co-operation with Survey of India authorities.

During 1980 the BSF apprehended 2,737 persons on the Western Sector for unauthorised or illegal attempts to cross the international border. It seized smuggled goods including currency amounting to Rs 40 lakhs and a large number of arms and ammunition. In the Eastern Sector, 7,102 persons including 1,827 smugglers were apprehended for clandestine trans-border crossing and smuggled articles valued Rs 98 lakhs were seized.

The Force was specially called to aid the civil authorities in various state particularly in Manipur, Mizoram and Uttar Pradesh.

The Force has four major training institutions, namely, (i) BSF Academy at Tekanpur which undertakes the training of recruits—NGO's and officers both initial and advance training; (ii) Training Centre and School at Hazaribagh undertakes training and specialises in jungle training; (iii) Central School of Weapons and Tactics at Indore; and (iv) Central School of Mechanical Transport at Saugar. The Force has also set up a factory at its training institution at Tekanpur for manufacturing tear smoke shells and grenades which are used by the police force in the country.

Central Reserve Police Force

The Central Reserve Police Force was raised in 1939 and it was known as the "Crown Representative's Police".

After Independence, the "Crown Representative's Police" was renamed as the "Central Reserve Police". Later, the appellation "Force" was added to the name. It is headed by a Director-General with Headquarters in Delhi.

The primary task of the force is that of assisting the states in maintaining law and order throughout the country. During external aggression, part of the force is also deployed for duties under army operation.

Assam Rifles

The Assam Rifles have been assigned the following role :

(i) Protection and security of India's international border especially that of the sensitive spots; (ii) Maintenance of law and order in the tribal areas of Arunachal Pradesh, Nagaland, Mizoram, Manipur and Tripura; and (iii) Assistance to the State Police of Arunachal Pradesh, Nagaland, Mizoram, Manipur and Tripura.

The Force is headed by an Inspector General with headquarters at Shillong. Working under the operational control of the Army, rendered assistance in the maintenance of internal security in north-eastern region and helped ensure the security of international borders in the area of its deployment.

Central Industrial Security Force

The Force was created under an Act of Parliament in 1969 for the better protection and security of industrial undertakings, owned and controlled by the central government. The Force is headed by a Director General with its Headquarters in New Delhi. The Force has been deployed mostly for the security set up of major industrial undertakings like the steel plants, oil refineries, fertilizers, ports, space installations, atomic energy establishments etc. For the administrative convenience and the operational efficiency the country has been divided into three zones, namely, Eastern, Southern and North-Western. The force, in each of these zones, functions under the operational and administrative supervision of Deputy Inspector General.

Institute of Criminology and Forensic Sciences

The Institute imparts in-service training to officers of the police, judicial and correctional services and also experts in forensic science. It also organises and promotes research in the fields of criminology and forensic science.

National Police Commission

The National Police Commission was set up in 1977 to consider in depth, the major issues of an all-India character relating to police administration in the country, with a view to enhancing the functional efficiency of the police. The Commission has so far submitted five reports to the government. It is expected to submit a few more reports. Some of the recommendations of the Commission have already been implemented; others are under consideration of the government.

Sardar Vallabhbhai Patel National Police Academy

The SVP National Police Academy, was established in 1948 to impart basic training to Indian Police Service probationary officers. In addition, the Academy also conducts thrice in a year a 14-week reorientation course for senior officers of 8 to 10 years seniority, 9 months course for sub-inspectors of the C.B.I., a top management development programme of two weeks duration for officers of the level of deputy inspector general of police and a one month's basic terminal training course for IPS officers who have completed one year training in the field. Besides, the Academy also conducts seminars and symposia on subjects of police interest.

Home Guards
& Civil
Defence

Home guards and Civil Defence are statutory voluntary organisations devoted to the service of the people. Whereas Home Guards organisation is spread throughout the country, Civil Defence is confined to some vulnerable towns and cities. Members of both the organisations are drawn from all walks of life, who besides attending to their normal avocations, place their services voluntarily at the disposal of authorities to discharge functions and duties within the roles assigned to them.

The role of the Home Guards is to serve as auxiliary to the police in maintaining internal security, help the community in any kind of emergency like air raid, fire, flood, an epidemic and so on. They also provide essential services, disaster relief and promote communal harmony. The object of Civil Defence is to save life, minimise damage to property and to maintain continuity of production during an emergency.

Both these voluntary organisations have approximately five lakh members each and have rendered exemplary service during national emergencies. During peace time Home Guards have helped the police in the maintenance of law and order, essential services, traffic control, guard duty, night patrolling, besides emergency relief and rescue operations during natural calamities. They are now taking part also in socio-economic developmental activities.

PRISONS

The subject "prisons, reformatories and other institutions of like nature, persons detained therein and arrangement with other states for the use of prisons and other institutions" is included in the State List of the seventh schedule to the Constitution. The administration and management of prisons including maintenance and upkeep of prisoners is regulated under the Prisons Act, 1894, the Prisoners Act, 1900 and the Transfer of Prisoners Act, 1950, as adopted by states and amended from time to time. The day-to-day administration of prisons is carried on in accordance with the rules framed under these Acts and incorporated in prison manuals of the respective states.

At present the country has 1,169 jails—75 central jails, 250 district jails, 786 sub-jails, 24 special jails, 19 open jails, 12 institutions for youthful offenders and 3 women jails. The administrative set up of jails in states is headed by the Inspector General of prisons.

Prison Reform

Even though prison administration has been a subject matter of close study and deliberation since the dawn of independence, during the last two years it has evoked an unprecedented concern and awareness on the part of the central and state governments. The Indian Jails Committee's report (1920) which defined the aim of prison administration as "prevention of further crime and restoration of the criminal to society as a reformed character" set the trend for prison reform in the country. Thereafter several expert bodies—Dr W. C. Reckless, a UN Expert on criminology and correctional administration (1951-52), the All India Jail Manual Committee (1957-59) and the Working Group on Prisons (1972-73) studied the problems facing prison administration in the country and recommended concrete steps to improve the living conditions in prisons and streamline the prison administration. The All India Jail Manual Committee brought out a model prison manual containing elaborate standards and guidelines aimed at transferring jails into reformatory centres.

In April, 1979, a conference of chief secretaries of various states and union territory administrations was convened by the Ministry of

Home Affairs to consider and suggest measures to deal with the problems posed by a large number of undertrials. The conference made a number of recommendations to reduce overcrowding in jails. These included establishment of an effective system of regular review of cases of undertrials, appointment of part-time or whole-time law officers in jails to enable undertrials to contest their cases in courts, setting up of new courts speedily and amendment of the law relating to the transfer of prisoners. The other recommendations made by the conference were : creation of separate facilities for the care, treatment and rehabilitation of women offenders, segregation of juveniles, improving the system of inspection and supervision in jails so as to avoid indiscipline and malpractices, strengthening of training facilities for jail staff, work programme for all able-bodied prisoners, setting up of state and national boards of visitors and revision of state jail manuals on the lines of the model prison manual.

The matters relating to improvement in prison administration were discussed at a subsequent conference held on 3 April 1980. The conference made various recommendations which included : undertaking crash programmes by states for providing flush/septic tank latrines and adequate drinking water facilities, change in the approach of the prison administration to the problems of prisoners and introduction of initial and in-service training to prison personnel, segregation of women and youthful offenders, organisation of programme for adult literacy.

To help state governments in their efforts to undertake jail reforms the Government of India formulated a scheme in 1977 to give financial assistance for prison reforms. The areas for priority attention chosen were renovation of prison buildings, modernisation of prison industries and agriculture, construction of residential accommodation for prison staff, provision of scientific and technological facilities in prisons and equipment for training of prison personnel. Stress was laid more on the improvement of living conditions and standards of maintenance of prisoners. The funds sanctioned to various state governments in two years 1977-78 and 1978-79 amounted to Rs six crores. The seventh finance commission has recommended allocation of Rs 48.31 crores to eleven states in the form of grants in-aid for upgradation of standards of jail administration including upkeep of prisoners for five years (1979-84). Priority has been accorded by the commission to ensure adequate direct expenditure on food, clothing and medicines for prisoners, to improve basic amenities like water supply, sanitary facilities, electrification etc. and to develop additional jail capacity in states. So far funds amounting to Rs 117.78 lakhs have been sanctioned to various state governments covered under the award of the Finance Commission.

The Government of India are actively persuing with the state governments the revision of their respective jail manuals on the basis of the guidelines contained in the model prison manual. The recommendations made by the conference of chief secretaries of states are also being processed in consultation with them. A committee on Jail Reforms was set up on 25 July 1980, under the Chairmanship of Justice A. N. Mulla to inquire into various aspects of prison administration in the country and to make necessary recommendations for its improvement. This committee has submitted its report on the Central Jail, Tihar and has initiated action to prepare a report on the jail administration in the entire country.

With regard to various aspects of prison reform, the National Institute of Social Defence; Department of Social Welfare, Government of India, provides technical assistance and consultancy to the central and state governments. Director, National Institute of Social Defence, functions as the ex-officio prison adviser to the Ministry of Home Affairs.

LAWS OF PARLIAMENT

In 1980, 72 Bills including a Constitution Amendment Bill were enacted as laws. List of Bills enacted as laws during the period are given in table 24.2. The scope and purpose of some of the important laws are given below :

The Prevention of Blackmarketing and Maintenance of Supplies of Essential Commodities Act, 1980

Provides for detention in certain cases for the purpose of prevention of blackmarketing and maintenance of supplies of commodities essential to the community and for matters connected therewith.

The Representation of the People (Amendment) Act, 1980

Amends the Representation of the People Act, 1950, and the Representation of the People Act, 1951, to provide for the readjustment of assembly constituencies in the State of Sikkim.

The Union Duties of Excise (Electricity) Distribution Act, 1980

Provides for the payment out of the Consolidated Fund of India of sums equivalent to the net proceeds of Union duties of excise on electricity to the States to which the law imposing the duty extends and for the distribution of those sums among those States in accordance with the recommendations of the Finance Commission, in its report dated the 28 October 1978.

The Assam State Legislature (Delegation of Powers) Act, 1980.

Confers on the President the Powers of the Legislature of the State of Assam to make laws.

The Banking Companies (Acquisition and Transfer of Undertakings) Act, 1980

Provides for the acquisition and transfer of the undertakings of certain banking Companies, having regard to their size, resources, coverage and organisation, in order further to control the heights of the economy, to meet progressively and serve better, the needs of the development of the economy and to promote the welfare of the people in conformity with the policy of the State towards securing the principles laid down in clauses (b) and (c) of article 39 of the Constitution and for matters connected therewith or incidental thereto. Six Indian private sector banks, each having deposits of Rs 200 crores or more on 14 March 1980, were nationalised under this Act.

The Essential Services Maintenance (Assam) Act, 1980

Provides for the maintenance of certain essential services and the normal life of the community in Assam. The Act empowers both the Central and State Governments to prohibit strikes in the State of Assam in any essential service and provides for penalties for persons participating or instigating and financing such strikes.

The Inter-State Water Disputes (Amendment) Act, 1980

Amends the Inter-State Water Disputes Act, 1956, to enable the Central Government to frame a scheme or schemes to make provisions for all matters necessary to give effect the decisions of a Tribunal constituted under the Act.

The Brahmaputra Board Act, 1980

Provides for the establishment of a Board for the Planning and integrated implementation of measures for the control of floods and bank erosion in the Brahmaputra Valley and for matters connected therewith.

The Advocates (Amendment) Act, 1980

Amends section 17 of the Advocates Act, 1961, and provides that the seniority of an attorney who has become an advocate shall be determined in accordance with the date of his enrolment as an attorney. Also amends section 23 of the principal Act to give the second Additional Solicitor-General the right of pre-audience immediately after the other three Law Officers of the Government of India.

The Dock Workers (Regulation of Employment) Amendment Act, 1980

Amends the Dock Workers (Regulation of Employment) Act, 1948 for the purpose of authorising the Dock Labour Boards established under the Act, to create funds and administer them for the welfare of dock workers and for other purposes.

The Sree Chitra Tirunal Institute for Medical Sciences and Technology Trivandrum Act, 1980

Declares the Sree Chitra Tirunal Medical Centre Society for Advanced Studies in Specialities, Trivandrum, in the State of Kerala to be an institution of national importance and provides for its incorporation and matters connected therewith. The objective is to make the Centre a statutory body corporate and declare it as an institution of national importance under entry 65 of List I of the Seventh Schedule to the Constitution, so that it may develop as a high level Institution of medical sciences and bio-medical engineering and technology.

The Hotel Receipts Tax Act, 1980

Provides for the imposition of a special tax on gross receipts of certain hotels.

The Smugglers and Foreign Exchange Manipulators (Forfeiture of Property) Amendment Act, 1980

Amends the Smugglers and Foreign Exchange Manipulators (Forfeiture of Property) Act, 1976, to provide the Chairman of the Appellate Tribunal under the Act the power for the constitution of benches consisting of two members instead of three members as originally provided for under the Act. Also the Appellate Tribunal, on payment of the prescribed fee, may allow any party to any appeal or any person authorised in this behalf by such party, to inspect any relevant records and registers of the Tribunal and obtain certified copy of any part thereof.

The Company Secretaries Act, 1980

Provides for the regulation and development of the profession of company secretaries. The Institute of Company Secretaries of India constituted under the Act has the responsibility for conducting examinations for the profession of company secretaries, for regulating the profession including professional misconduct and for creating necessary facilities for the growth and training of the members of the profession.

The Auroville (Emergency Provisions) Act, 1980

Provides for the taking over, in the public interest of the management of Auroville for a limited period and for matters connected therewith or incidental thereto.

The Maruti Limited (Acquisition and Transfer of Undertakings) Act, 1980

Provides for the acquisition and transfer of the undertakings of Maruti Limited with a view to securing the utilisation of the available infra-structure, to modernise the automobile industry, to effect a more economical utilisation of scarce fuel and to ensure higher production of motor vehicles which are essential to the needs of the economy of the country and for matters connected therewith or incidental thereto.

The National Security Act, 1980

Provides for the preventive detention of anti-social and anti-national elements including secessionist, communal, pro-caste elements and other elements who adversely influence and affect the services essential to the community.

The Constitution (Forty-fifth Amendment) Act, 1980

Amends article 334 of the Constitution to provide for the continuance of reservation of seats for the Scheduled Castes and Scheduled Tribes and the representation of the Anglo-Indian Community by nomination in the Lok Sabha and in the Legislative Assemblies of the States for a further period of ten years from 26 January 1980.

TABLE 24.2
LAWS OF PARLIAMENT DURING 1981¹

Sl. No.	Bill	Initiating chamber	When introduced	When passed by the originating chamber	When passed/returned by the other chamber	Date of President's assent
1	2	3	4	5	6	7
1.	The Government of Union Territories (Amendment) Bill, 1980	L.S.	23-1-80	30-1-80	2-2-80	8-2-80
2.	The Appropriation Bill, 1980	L.S.	30-1-80	1-2-80	4-2-80	11-2-80
3.	The Appropriation (Railways) Bill, 1980	L.S.	1-2-80	2-2-80	4-2-80	11-2-80
4.	The Contingency Fund of India (Amendment) Bill, 1980	L.S.	24-1-80	30-1-80	2-2-80	12-2-80
5.	The Payment of Bonus (Amendment) Bill, 1980	L.S.	23-1-80	24-1-80 2-2-80 ²	2-2-80	12-2-80
6.	The Central Excises and Salt and Additional Duties of Excise (Amendment) Bill, 1980	L.S.	25-1-80	2-2-80	5-2-80	12-2-80
7.	The Prevention of Black-marketing and Maintenance of Supplies of Essential Commodities Bill, 1980	L.S.	25-1-80	2-2-80	4-2-80	12-2-80
8.	The Representation of the People (Amendment) Bill, 1980	L.S.	25-1-80	2-2-80	5-2-80	12-2-80
9.	The Appropriation (Railways) Vote on Account Bill, 1980	L.S.	12-3-80	12-3-80	18-3-80	22-3-80
10.	The Appropriation (Railways) No. 2 Bill, 1980	L.S.	12-3-80	12-3-80	18-3-80	22-3-80
11.	The Appropriation (Vote on Account) Bill, 1980	L.S.	14-3-80	14-3-80	17-3-80	22-3-80
12.	The Appropriation (No. 2) Bill, 1980	L.S.	14-3-80	14-3-80	17-3-80	22-3-80
13.	The Finance Bill, 1980	L.S.	11-3-80	14-3-80	18-3-80	25-3-80
14.	The Union Duties of Excise (Electricity) Distribution Bill, 1980	L.S.	12-3-80	14-3-80	18-3-80	25-3-80
15.	The Assam Appropriation (Vote on Account) Bill, 1980	L.S.	15-3-80	15-3-80	19-3-80	27-3-80
16.	The Assam Appropriation Bill, 1980	L.S.	15-3-80	15-3-80	19-3-80	27-3-80
17.	The Madhya Pradesh Appropriation (Vote on Account) Bill, 1980	L.S.	15-3-80	15-3-80	20-3-80	27-3-80
18.	The Madhya Pradesh Appropriation Bill, 1980	L.S.	15-3-80	15-3-80	20-3-80	27-3-80
19.	The Orissa Appropriation (Vote on Account) Bill, 1980	L.S.	17-3-80	17-3-80	20-3-80	27-3-80
20.	The Orissa Appropriation Bill, 1980	L.S.	17-3-80	17-3-80	20-3-80	27-3-80
21.	The Bihar Appropriation (Vote on account) Bill, 1980	L.S.	15-3-80	15-3-80	19-3-80	28-3-80
22.	The Bihar Appropriation Bill, 1980	L.S.	15-3-80	15-3-80	19-3-80	28-3-80
23.	The Gujarat Appropriation (Vote on Account) Bill, 1980	L.S.	15-3-80	15-3-80	19-3-80	28-3-80
24.	The Gujarat Appropriation Bill, 1980	L.S.	15-3-80	15-3-80	19-3-80	28-3-80
25.	The Maharashtra Appropriation (Vote on Account) Bill, 1980	L.S.	17-3-80	17-3-80	20-3-80	28-3-80
26.	The Maharashtra Appropriation Bill, 1980	L.S.	17-3-80	17-3-80	20-3-80	28-3-80
27.	The Punjab Appropriation (Vote on Account) Bill, 1980	L.S.	18-3-80	18-3-80	25-3-80	28-3-80

28. The Punjab Appropriation Bill, 1980	L.S.	18-3-80	18-3-80	25-3-80	28-3-80
29. The Rajasthan Appropriation (Vote on Account) Bill, 1980	L.S.	18-3-80	18-3-80	25-3-80	28-3-80
30. The Rajasthan Appropriation (Bill, 1980)	L.S.	18-3-80	18-3-80	25-3-80	28-3-80
31. The Tamil Nadu Appropriation (Vote on Account) Bill, 1980	L.S.	18-3-80	18-3-80	26-3-80	28-3-80
32. The Tamil Nadu Appropriation Bill, 1980	L.S.	18-3-80	18-3-80	26-3-80	28-3-80
33. The Uttar Pradesh Appropriation (Vote on Account) Bill, 1980	L.S.	18-3-80	18-3-80	26-3-80	28-3-80
34. The Uttar Pradesh Appropriation Bill, 1980	L.S.	18-3-80	18-3-80	26-3-80	28-3-80
35. The Requisitioning and Acquisition of Immovable Property (Amendment) Bill, 1980	L.S.	18-3-80	19-3-80	26-3-80	5-4-80
The Constitution (Forty-Fifth) Amendment Bill, 1980 ³	L.S.	23-1-80	24-1-80	25-1-80	14-4-80
36. The Assam Appropriation (Second Vote on Account) Bill, 1980	L.S.	11-6-80	11-6-80	16-6-80	20-6-80
37. The Delhi High Court (Amendment) Bill, 1978	R.S.	7-12-78	12-6-80	20-6-80	2-7-80
38. The Assam State Legislature (Delegation of Powers) Bill, 1980	L.S.	26-6-80	5-7-80	9-7-80	11-7-80
39. The Appropriation (Railways) No. 3 Bill, 1980	L.S.	2-7-80	3-7-80	7-7-80	11-7-80
40. The Banking Companies (Acquisition and Transfer of Undertakings) Bill 1980	L.S.	12-6-80	16-6-80	30-6-80	11-7-80
41. The Essential Services Maintenance (Assam) Bill, 1980	L.S.	26-6-80	5-7-80	9-7-80	19-7-80
42. The National Company Limited (Acquisition and Transfer of Undertakings) Bill, 1980	L.S.	26-6-80	3-7-80	8-7-80	19-7-80
43. The Appropriation (No 3) Bill, 1980	L.S.	24-7-80	24-7-80	30-7-80	31-7-80
44. The Finance (No. 2) Bill, 1980	L.S.	17-6-80	31-7-80	7-8-80	21-8-80
45. Inter-State Water Disputes (Amendment) Bill, 1980	L.S.	27-3-80	12-6-80	12-8-80	27-8-80
46. The Brahmaputra Board Bill, 1980	L.S.	1-7-80	7-8-80	18-8-80	1-9-80
47. The Advocate (Amendment) Bill, 1980	L.S.	12-6-80	16-6-80	18-11-80	29-11-80
48. The Assam Appropriation (No. 2) Bill, 1980	L.S.	24-11-80	24-11-80	27-11-80	29-11-80
49. The Dock Workers (Regulation of Employment) Amendment Bill, 1980	L.S.	28-7-80	11-8-80	20-11-80	29-11-80
50. The Hindustan Tractors Limited (Acquisition and Transfer of Undertakings) Amendment Bill, 1980	L.S.	11-6-80	12-6-80	24-11-80	3-12-80
51. The Mica Mines Labour Welfare Fund (Amendment) Bill, 1980	L.S.	26-3-80	4-8-80	24-11-80	3-12-80
52. The Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum, Bill, 1980	L.S.	11-8-80	17-11-80	24-11-80	3-12-80
53. The Territorial Army (Amendment) Bill, 1980	L.S.	25-7-80	18-11-80	2-12-80	9-12-80
54. The Hotel-Receipts Tax Bill, 1980	L.S.	12-8-80	27-11-80	3-12-80	9-12-80
55. The Smugglers and Foreign Exchange Manipulators (Forfeiture of Property Amendment) Bill, 1980	L.S.	18-3-80	12-6-80	1-12-80	9-12-80
56. The Company Secretaries Bill, 1980	L.S.	28-3-80	16-6-80	25-11-80	10-12-80
57. The High Court and Supreme Court Judges (Conditions of Service) Amendment Bill, 1980	L.S.	4-8-80	26-11-80	4-12-80	10-12-80

1	2	3	4	5	6	7
58.	The Bengal Chemical and Pharmaceutical Works Limited (Acquisitions and Transfer of Undertakings) Bill, 1980	L.S.	12-8-80	20-11-80	2-12-80	12-12-80
59.	The Auroville (Emergency Provisions) Bill, 1980	L.S.	25-11-80	2-12-80	9-12-80	17-12-80
60.	The Monopolies and Restrictive Trade Practices (Amendment) Bill, 1980	L.S.	24-11-80	1-12-80	8-12-80	19-12-80
61.	The Public Premises (Eviction of Unauthorised Occupants) Amendment Bill, 1980	L.S.	12-8-80	4-12-80	10-12-80	20-12-80
62.	The Jute Companies (Nationalisation) Bill, 1980	L.S.	1-12-80	8-12-80	10-12-80	21-12-80
63.	The Code of Criminal Procedure (Amendment) Bill, 1980	L.S.	1-12-80	9-12-80	17-12-80	26-12-80
64.	The Maruti Limited (Acquisition and Transfer of Undertakings) Bill, 1980	L.S.	8-12-80	18-12-80	23-12-80	27-12-80
65.	The National Security Bill, 1980	L.S.	4-12-80	12-12-80	22-12-80	27-12-80
66.	The Payment of Bonus (Second Amendment) Bill, 1980	L.S.	8-12-80	19-12-80	24-12-80	27-12-80
67.	The Bird and Company Limited (Acquisition and Transfer of Undertakings and other properties) Bill, 1980	L.S.	25-11-80	18-12-80	24-12-80	27-12-80
68.	The Tea (Amendment) Bill, 1980	L.S.	8-12-80	19-12-80	24-12-80	27-12-80
69.	The Forest (Conservation) Bill, 1980	L.S.	2-12-80	19-12-80	24-12-80	27-12-80
70.	The Hind Cycles Limited and Sen-Raleigh Limited (Nationalisation) Bill, 1980	L.S.	5-12-80	18-12-80	24-12-80	27-12-80
71.	The Appropriation (No. 4) Bill, 1980	L.S.	22-12-80	22-12-80	24-12-80	29-12-80

1. Lok Sabha was dissolved on 22 August 1979 and no bill was passed by Parliament during the period 1 July 1979 to 31 December 1979. For laws passed by Parliament prior to 30 June, 1979 see India—1980.

2. Amendments made by the Rajya Sabha in the Bill on 2-2-1980 were agreed to by the Lok Sabha on 2-2-1980.

3. The Constitution (Forty-fifth) Amendment Bill, 1980 was passed by the Houses of Parliament during the 112th session of the Rajya Sabha and referred to the state legislature for ratification. After ratification the Bill was assented to by the President on 14 April, 1980.

STATES AND UNION TERRITORIES¹

ANDHRA PRADESH

Area : 2,76,914 sq km

Population : 4,35,02,708

Capital : Hyderabad

Principal languages : Telugu and Urdu

AGRICULTURE Agriculture is the main occupation of about 74 per cent of the people of Andhra Pradesh. Thirty-five per cent of the cultivated area is irrigated. The state is surplus in foodgrains, particularly rice. Other important crops are jowar, bajra, maize, ragi, small millets, pulses, tobacco, cotton, sugarcane, groundnut and bananas. The production of foodgrains is expected to exceed 100 lakh tonnes in 1979-80 despite widespread drought. The state accounts for about 55 per cent of the country's entire production of castor and 94 per cent of Virginia tobacco.

Forests cover 23.3 per cent of state's area. Important forest products are tea, eucalyptus, cashew, casuarina, bamboo, soft wood and miscellaneous species.

INDUSTRY

The state is endowed with a rich variety of minerals. In fact, Andhra Pradesh has a virtual monopoly of quality 'chrysotile asbestos' in the country. It accounts for about 75 per cent of India's total production of barytes. Other important minerals found are copper ore, manganese, mica, coal and limestone. The state ranks sixth in manganese ore production in the country.

Several major industries have been established in the state, especially around Hyderabad and Vishakhapatnam. These produce machine tools, synthetic drugs, pharmaceuticals, heavy electrical machinery, ships, fertilizers, electronic equipment, aeronautical parts, cement, chemicals, asbestos, cement products and glass.

Work on the steel plant at Vishakhapatnam has also commenced. Foundation for the railway carriage repair shop at Tirupati and for Allwyns watch plant at Patancheru has been laid. To promote small scale industries, District Industries Centres have been set up in 14 districts.

IRRIGATION AND POWER

Important irrigation schemes implemented include Nagarjunasagar project, Prakasam barrage, Tungbhadra low level canal, Kurnool-

¹Area figures for all states and union territories are provisional as on 1 July 1971 except in the case of Andaman and Nicobar Islands where they relate to 1 January 1966.

Cuddapah canal, Kadam project, Ramperu drainage project and Upper Penner project in addition to numerous other medium and minor irrigation schemes.

Important power projects are the Machchikund, Upper Sileru, Lower Sileru, Tungabhadra Dam and Nizam Sagar Hydel power schemes and Nellore, Ramagundam, Kothagudam and Hussain Sagar (Hyderabad) thermal stations. The per capita consumption of electricity, which was 2.5 kwh at the beginning of the First Plan, rose to 91 kwh by the end of March 1980. The installed capacity, both hydel and thermal, has reached 2,298 mw in 1980-81. During the year, 1,200 villages and 500 hamlets were electrified and 36,000 pumpsets energised. The state's prestigious power project, the Srisailem hydro-electric project, is under construction.

The Annual Plan outlay for 1981-82 is Rs. 538.29 crores.

GOVERNMENT

Council of Ministers¹

Governor : K.C. Abraham

Chief Minister : T. Anjiah

Cabinet Ministers : N. Amarnatha Reddy, E. Ayyapu Reddy, M.A. Aziz, M. Bage Reddy, N. Bhaskara Rao, C. Dass, Ch. Hanumaiah, M.M. Hashim, T. Hayagrivachary, C. Jagannadha Rao, N. Janardhana Reddy, D. Kondaiah Choudhary, A. Madan Mohan, M. Manik Rao, K. Prabhakara Reddy, G. Raja Ram, B. Ramdev, K. Ranga Rao, K. Rosaiah, Smt. B. Sarojini Pulla Reddy, P. Seshavataram, B. Srirama Murthy, G. Sriramulu Naidu, G. V. Sudhakara Rao, A. Veerappa, S. Venkat Reddy, B. Venkatrama Reddy, G. Venkataswamy and P.V. Choudary.

Ministers of State : S. Alwardas, T. Balagoud, N. Chandrababu Naidu, P. Janardhana Reddy, G. Nageswara Rao, C. Rajanarasimha, Dr. Y. S. Rajasekhara Reddy, K. E. Krishnamurthi, G. Ramaswamy, D. Ravindra Naik, K. Satyanarayana Raju, M. Tulasidass, P. Venkata Rao, V. Venkateswara Rao and Smt. M.N. Vijayalakshmi Devi.

Legislative Council¹

Chairman : Syed Mukkassir Shah

Deputy Chairman : K. Keshava Rao

Legislative Assembly¹

Speaker : K. Prabhakara Rao

Deputy Speaker : Vacant

High Court¹

Chief Justice : Alladi Kuppuswamy

Judges : S.P. Sinha, K. Madhava Reddy, K. Ramachandra Rao, K.A. Mukhtadar, P. Chenna Kesava Reddy, V. Madhava Rao, S. Madhusudan Rao, A. Raghuvir, K. Punneya, A. Gangadhara Rao, K. Jayachandra Reddy, B.P. Jeevan Reddy, P.A. Chowdary, Smt. K. Amareswari, G. Ramanujulu Naidu, P. Ramachandra Raju and A. Seetharama Reddy.

Public Service Commission¹

Chairman : Y. Siva Sankara Reddy.

Members : Ghulam Ahmed, Dr. Joseph Gummadi, C. Sudarshan, B. Baburao Varma and K. Chandraiah.

Chief Secretary : S. R. Ramamurty

¹As on 17 March 1981

AREA POPULATION
AND HEADQUARTERS
OF DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Adilabad	16,133	12,88,348	Adilabad
2. Anantapur	19,125	21,15,321	Anantapur
3. Chittoor	15,763	22,85,536	Chittoor
4. Cuddapah	15,356	15,77,267	Cuddapah
5. East Godavari	10,970	30,87,262	Kakinada
6. Guntur	11,377	28,44,488	Guntur
7. Hyderabad Urban ¹	1,027	18,39,711	Hyderabad
8. Karimnagar	11,824	19,63,928	Karimnagar
9. Khammam	15,872	13,69,892	Khammam
10. Krishna	8,734	24,93,574	Bandar/Masulipatnam
11. Kurnool	18,799	19,82,090	Kurnool
12. Mahbubnagar	18,419	19,32,082	Mahbubnagar
13. Medak	9,685	14,67,944	Sangareddi
14. Nalgonda	14,242	18,19,738	Nalgonda
15. Nellore	13,058	16,09,617	Nellore
16. Nizamabad	7,969	13,13,268	Nizamabad
17. Prakasam	6,413	25,89,991	Srikakulam
18. Ranga Reddy ¹	7,730	9,47,982	Hyderabad
19. Srikakulam	6,413	17,76,132	Ongola
20. Vishakhapatnam	10,927	20,15,531	Vishakhapatnam
21. Vizianagaram ²	6,142	16,04,335	Vizianagaram
22. Warangal	12,875	18,70,933	Warangal
23. West Godavari	7,744	23,74,306	Eluru

ASSAM

Area : 78,523³ sq km

Population : 1,46,25,152

Capital : Dispur (Temporary)

Principal Language : Assamese

AGRICULTURE

The area under foodcrops accounts for over 72 per cent of the total cultivated area. The principal food crop is rice while the main cash crops are jute, tea, cotton, oilseeds, sugarcane, potato and fruits. Rice production and the area under it during 1978-79 was 19.49 lakh tonnes and 20.52 lakh hectares respectively. Production of jute during the same period is expected to reach one lakh bales. An area of 75,000 hectares was under wheat cultivation during the year.

Forests cover 20.9 per cent of the total area of the state. Main forest products are timber, bamboo, reeds, medicinal herbs, lac, cane and elephant tusks.

INDUSTRY

Assam is rich in mineral wealth. It holds a unique position in the production of mineral oil. Other minerals found in the state are coal, limestone, refractory clay, dolomite and natural gas.

Of the agriculture based industries, tea occupies an important place. There are nearly 750 tea plantations in the state. Petroleum

¹Hyderabad district was bifurcated into Hyderabad Urban and K. W. Ranga Reddy districts in August 1978. Temporarily the headquarters of the new district is located in Hyderabad.

²The Vizianagaram district was formed on 1 June 1979 with areas from out of the then Srikakulam and Visakhapatnam districts.

³As reorganised on 21 January 1972 according to North Eastern Areas (Reorganisation) Act 1971.

and petroleum products form the other main industries. Assam produces about 50 per cent of the country's total petroleum output and natural gas. The state has two oil refineries and the third, with a petrochemical complex, is under way. There is also a public sector fertilizer factory at Namrup. Other industries are sugar, jute, silk, paper, plywood manufacture, and rice and oil milling. Important cottage industries are handloom, sericulture, manufacture of cane and bamboo articles, carpentry, smithy and manufacture of brass utensils. The race of industrialisation in the state has been boosted up significantly with the setting up of five district industries centres (DIC). An export oriented handloom project has been started at Sualkuchi to exploit the export potentialities of Eri and Muga.

IRRIGATION
AND POWER

The two medium irrigation schemes started in the state during the Third Five Year Plan and which spilled over to the Fourth Plan were the Yamuna and Sukla irrigation projects. The Yamuna project was commissioned in 199 and the Sukla project in 1978. At present there are 4 medium and more than 200 minor irrigation projects in the state. Execution of one major, 9 medium and 218 minor projects has started. It has been decided to develop a gross irrigation coverage of 7.67 lakh hectares of land against a total net crop area of 31.76 lakh hectares in the state. New power projects are under construction at Lakwa andBongaigon.

Assam had only 20 electrified villages in 1951; the number has now increased to 4,226 up to March 1979 under the rural electrification scheme.

GOVERNMENT

Governor : L. P. Singh

Assam has been placed under the President's rule since 30 June 1981 and the State Assembly has been kept in animated suspension.

Legislative
Assembly¹

Speaker : Vacant.
Deputy Speaker : Vacant

High Court¹

Chief Justice : Dambarudhar Pathak

Public Service
Commission¹

Chairman : A. K. Choudhury

Chief Secretary : Ramesh Chandra

AREA, POPULATION
AND HEADQUARTERS
OF DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Cachar	6,962	17,13,318	Silchar
2. Darrang	8,775	17,36,188	Tezpur
3. Goalpara	10,359	22,25,103	Dhubri
4. Kamrup	9,863	28,54,183	Gauhati
5. Karbi Anglong	10,332	3,79,310	Diphu
6. North Cachar Hills	4,890	76,047	Haflong
7. Nowgong	5,561	16,80,895	Nowgong
8. Sivasagar	8,989	18,37,389	Jorhat
9. Lakhimpur	5,646	7,11,600	North Lakhim- pur
10. Dibrugarh	7,023	14,11,119	Dibrugarh

¹As on 4 July 1980.

BIHAR

Area : 1,73,876 sq km
Capital : Patna

Population : 5,63,53,369
Principal language : Hindi

AGRICULTURE The principal food crops are rice, wheat, maize, ragi and pulses. Main cash crops are sugarcane, oilseeds, tobacco, jute and potato. Net irrigated area forms 24 per cent of the net cultivated area in the state. The production of foodgrains during 1979-80 was about 71 lakh tonnes.

Forests cover about 17 per cent of the area. Important forest products are timber, *kendu* leaves, lac, gum and resin.

INDUSTRY Bihar is one of the richest states in India in mineral wealth, accounting for about 40 per cent of the total mineral production in the country. It has huge deposits of copper, apatite and kyanite and sizeable deposits of coal, mica and china clay. It is also one of the principal iron ore producing states. Other important minerals found are manganese, limestone, graphite, chromite, asbestos, barytes, dolomite, felspar, columbite, pyrites, saltpetre, glass sands, slate, lead, silver, building stones and radio-active minerals.

The Tata Iron and Steel Company and the Tata Engineering and Locomotive Company at Jamshedpur, the fertilizer factory at Sindri, the heavy machine tool factory and foundry forge project at Ranchi, the steel plant at Bokaro, the oil refinery at Barauni, the aluminium plant at Muri (Ranchi), explosives factory at Gomia and paper factory at Dalmianagar, Hindustan Copper Corporation at Ghatshila, a zinc production unit at Tundu (Dhanbad), marine diesel engineering, ball bearing and wire rope units at Ranchi are some of the major industrial ventures in the state. The high tension insulator factory and the electric equipment factory at Ranchi, spun silk Mill at Bhagalpur, scooter project at Fatwa, mpk granulation plant and super phosphate factory at Sindri and a modern rice mill at Bikramganj are some of the important enterprises being run by the Bihar State Industrial Development Corporation. Under joint sector, Bihar Air Products Ltd., at Adityapur, has recently gone into commercial production. There are 29 sugar factories, seven cement factories, seven distilleries, three jute mills and two wagon-making units. There are 18,918 small scale industrial units in the state.

Bihar is famous for its tussore silk industry which employs more than one lakh persons. A spun silk mill in the public sector has been set up at Bhagalpur. Handicrafts occupy an important place among the cottage industries of Bihar.

Six Industrial Area Development Authorities are functioning at Adityapur, Bakaro, Darbhanga, Patna, Ranchi and Muzaffarpur. There are 31 industrial estates and 23 industrial areas functioning in the state. With a view to stepping up the pace of industrial development, the government has set up the State Credit and Investment Corporation, the Bihar State Leather Industries Development Corporation, Sugar Corporation, Export Corporation, the Bihar State Handloom, Powerloom and Handicrafts Corporation, the Bihar State Industrial Development Corporation, the Bihar State Small Industries Corporation, the Bihar State Financial Corporation, the Bihar State Textile Corporation, the Bihar State Electronic Corporation and the Bihar State Pharmaceutical Chemical Corporation.

**IRRIGATION
AND POWER**

Major irrigation projects are on rivers Kosi, Gandak, Sone, Badua, Chandan, North Koel and Bagmati. Badua and Chandan projects have been completed. There are a number of small and medium irrigation projects to benefit tribal areas. Several flood control schemes are in various stages of completion. The state shares the benefits of the multi-purpose Damodar Valley Project with West Bengal in respect of power.

Major power projects are the Patratu thermal power station, Barauni thermal power station, Subaranarekha and Kosi hydro-electric power station under Bihar State Electricity Board and Bokaro and Chandrapura and Durgapur thermal power stations alongwith Tilaiya, Maithon and Panchet hydel power stations under the Damodar Valley Corporation.

The total installed capacity of thermal and hydel power in March 1981 was 2,316mw. The number of electrified villages which was 19,445 as on 31 March 1980 increased to 21,703 (prov.) by March 1981. For irrigation, 1,59,317 (prov.) purpsets/tube-wells had been energised by March 1981 as against 1,51,985 in March 1980.

GOVERNMENT

Governor : A. R. Kidwai

**Council of
Ministers¹**

Chief Minister : Dr. Jagannath Mishra

Cabinet Ministers : Nasiruddin Haider Khan, Rajendra Pratap Singh, Ramashray Prasad Singh, Karam Chand Bhagat, Misri Sada, Budhadeo Singh, Jagnarain Trivedi, Shankar Dayal Singh, Laliteshwar Prasad Shahi, Dr. Umeshwar Prasad Verma, Yogeshwar Prasad 'Yogesh', Chaudhary Salah Uddin, Lahtan Choudhary, Ramesh Jha, Abdul Sami Nadri, T. Mochirai Munda and Ghanshyam Singh.

Ministers of State : Dr. Prabhunath Singh, Raghunath Jha, Shamayela Nabi, Sagir Ahmad, Sadanand Singh, Rajo Singh, Madan Prasad Singh, Shankar Pratap Deo, Smt. Uma Pandey, Smt. Prabhawati Gupta, Moidur Rahman, Ramdeo Rai, Dilkeshwar Ram, Prem Narain Garhwal, Lallan Shukla and L. Tiru.

Deputy Ministers : Kumud Ranjan Jha, Karuneshwar Singh, Shyam Sunder Singh 'Dheeraj', Ishwari Ram Paswan and Ranjit Sinha.

Chairman : Prithvi Chand Kisku

**Legislative
Council¹**

Deputy Chairman : Vacant

**Legislative
Assembly¹**

Speaker : Radha Nandan Jha

Deputy Speaker : Gajendra Prasad Himanshu

High Court¹

Chief Justice : K. B. N. Singh

Judges : S. Sarwar Ali, R. P. Sinha, B. P. Jha, H. L. Agrawal, L. M. Sharma, S. K. Jha, N. P. Singh, S. K. Choudhary, Udai Sinha, S. Ali Ahmed, V. P. Sinha, M. P. Sinha, Brishketu Saran Sinha, S. A. Narain, G. M. Mishra, P. S. Sahay, Chaudhary S. S. Sinha, Syed S. Hasan, Manoranjan Prasad, Satyeshwar Rai, Vishwanath Mishra, U. C. Sharma, M. P. Verma, R. P. Mandal and C. N. Tiwari.

**Public
Service
Commission¹**

Chairman : Dr. Kumar Bimal

Members : F. Ahmad, Jiwand Singh, Ram Bhagat Paswan, Yogesh Murmu, K. M. Zuberi, Dr. Sidheshwar Prasad, B. P. Singh and Vilayat Paswan 'Vihangam'.

Chief Secretary : P. P. Nayyar

¹As on 9 May 1981

AREA, POPULATION
AND HEADQUARTERS
OF DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Patna	3,181.9	22,50,883	Patna
2. Nalanda	2,346.1	13,06,062	Biharsharif
3. Gaya	4,287.5	19,24,289	Gaya
4. Aurangabad	4,408.9	12,92,666	Aurangabad
5. Nawadah	3,647.6	12,40,518	Nawadah
6. Bhojpur	4,023.8	19,95,146	Arrah
7. Rohtas	7,296.2	19,43,888	Sasaram
8. Saran	2,656.8	17,09,722	Chapra
9. Siwan	2,250.8	14,62,067	Siwan
10. Gopalganj	2,044.4	11,07,464	Gopalganj
11. Champaran, East	4,333.8	19,56,084	Motihari
12. Champaran, West	4,862.2	15,87,019	Bettiah
13. Muzaffarpur	3,160.1	19,09,058	Muzaffarpur
14. Vaishali	2,018.7	13,48,990	Hajipur
15. Sitamarhi	2,659.2	15,82,622	Sitamarhi
16. Darbhanga	2,296.0	15,17,151	Darbhanga
17. Samastipur	2,856.4	18,24,718	Samastipur
18. Madhubani	3,526.6	18,92,039	Madhubani
19. Monghyr	7,927.6	27,45,180	Monghyr
20. Bhagalpur	5,656.0	20,91,103	Bhagalpur
21. Santhal Pargana	14,129.0	31,86,908	Dumka
22. Begusarai	1,899.4	11,47,449	Begusarai
23. Saharsa	5,885.0	23,50,268	Saharsa
24. Purnea	7,989.7	28,84,990	Purnea
25. Katihar	3,023.3	10,56,873	Katihar
26. Palamau	12,677.0	15,04,350	Daltonganj
27. Hazaribagh	11,152.5	16,45,838	Hazaribagh
28. Giridih	6,907.5	13,74,376	Giridih
29. Ranchi	18,331.0	26,11,445	Ranchi
30. Dhanbad	2,994.0	14,66,417	Dhanbad
31. Singhbhum	13,447.0	24,37,799	Chaibasa

GUJARAT

*Area : 1,95,984 sq km**Capital : Gandhinagar**Population : 2,66,97,475**Principal language : Gujarati*

AGRICULTURE

Gross irrigated area forms 15 per cent of the total cultivated area and 17 per cent of the total sown area in Gujarat. The main food crops are bajra, jowar, rice and wheat. Important commercial crops are cotton, tobacco and groundnut.

Production of foodgrains was 40.06 lakh tonnes in 1979-80 as against 44.83 lakh tonnes in 1978-79. Production of sugarcane was 3.19 lakh tonnes, cotton 17.85 lakh bales and oil seeds 19.93 lakh tonnes in 1979-80.

Forests cover 10.05 per cent of the area of the state. Main forest products are teak, khair, haldarvo and bamboo. Gujarat is the pioneering state in the field of social forestry which has culminated into a community forestry project for which the World Bank has sanctioned finan-

cial aid of Rs 64 crore. The Gujarat State Forest Development Corporation deals in scientific collection and development of minor forest produce. It has already made good progress and increased its share-capital from Rs 1 crore to Rs 4 crore.

INDUSTRY

Textiles (including ginning and pressing of cotton), heavy chemicals, such as caustic soda and soda ash, petro-chemicals, drugs and pharmaceuticals, electronic and electrical goods, engineering goods, machine-tools, cement and sugar are some of the important industries.

Gujarat has four major soda ash production units (Tata Chemicals, Saurashtra Chemicals, GACL and Dhrangadhra). Their total output together accounts for about 85 per cent of the total output of the country. Gujarat is also a major salt producing state and the salt manufactured forms as much as 60 per cent of the country's total production.

Extensive exploration and production of oil and natural gas on commercial basis in Ankleshwar, Cambay and Kalol areas has put Gujarat already on the country's oil map. The setting up of the oil refinery at Koyali has led to considerable development of the petro-chemical industries in this area. The Olefin complex set up by the India Petro-chemical Corporation Ltd., is a major development in this field. Considerable development has also taken place in the matter of production of nitrogenous fertilisers in the area. The state government and the GSFC have promoted a joint sector company GNFC to establish a huge fertilizer plant. Central government has also planned to set up a fertiliser complex at Hajira in Surat district. IFFCO is also engaged in the production of fertilisers at Kalol and Kandla.

There are six cement factories in the state with a total installed capacity of about 24.81 lakh tonnes per annum. A joint sector company "Narmada Cement Co." has also been promoted by the Government.

In the field of mineral development, GMDC has already set up a floorspar project, a lignite project and a base metal project.

The GIIC and the HMT have jointly promoted a machine tools factory at Bhavnagar.

The IDPL and the GIIC have promoted a drugs project based on isabgul (psyllium husk) as the raw material. At present, isabgul is exported to western countries in raw form.

IRRIGATION AND POWER

Some of the important major irrigation projects completed since 1947 include Ukai, Kadana, Kakrapara, Mahi right bank canal, Project State-I, Shetrunji, Dantiwada, Hathmati, Meshwa and Bhadar. Besides reservoirs have been created on the river Sabarmati at Dharoi and the Panam near Kel-dezar. Works on Daman Ganga, Karjan and Sukhi projects are in full swing and preliminary works on Sardar Sarovar (Narmada) project are in progress.

The total installed capacity, both hydel and thermal, at present is 2,384 mw. In all 11,879 villages have been electrified and the energisation of wells has gone up to 2,22,022.

The budget estimates for 1980-81 : Receipts Rs 947.50 crores. Expenditure Rs 928.63 crores.

GOVERNMENT

Governor : Smt. Sharda Mukerjee

Chief Minister : Madhavsingh Solanki

Cabinet Ministers : Sanat Mehta, Prabodh Raval, Trambaklal Dave

Council of Ministers¹

¹ As on 5 March 1981

Amarsinh Chaudhary, Manoharsinhji Jadeja, Mahant Vijaydasji and Khodiden Jhula.

Ministers of State : Smt Kokilaben Vyas, Mohmed Surti, Bhavsinh Jhala, Dr Devjibhai Vanvi, Harihar Khambholja and Maganbhai Solanki.

Deputy Ministers : Kiritsinh Gohil, Balvantrao Manvar, Purshottam Makwana, Khimji Jetang, Lalit Patel, Mohamed Hussain Baloch, Lalit Parmar and Chandrakant Patel.

Speaker : Natwarlal Shah

Deputy Speaker : Ramanikbhai Dharni

Chief Justice : B. J. Diwan

Judges : M. P. Thakkar, P. D. Desai, B. K. Mehta, A. N. Surati, N. H. Bhatt, A. M. Ahmadi, R. C. Mankad, S. B. Majumdar, G. T. Nanavati, V. V. Bedarkar, D. H. Shukla, S. L. Talati and D. C. Gheewala.

Chairman : K. N. Zutshi

Member : M. J. Chaudhari and D. L. Munim.

Chief Secretary : H. K. L. Capoor

AREA, POPULATION
AND HEADQUARTERS
DISTRICTS

DISTRICT	Area (sq km)	Population (1971 census)	Headquarters
1. Ahmedabad	8,707	29,10,307	Ahemdabad
2. Amreli	6,760	8,48,730	Amreli
3. Banaskantha	12,702	12,65,383	Palanpur
4. Bharuch	9,045	11,09,601	Bharuch
5. Bhavnagar	11,155	14,05,285	Bhavnagar
6. Gandhinagar	649	2,00,642	Gandhinagar
7. Jamnagar	14,125	11,11,343	Jamnagar
8. Junagadh	10,607	16,56,677	Junagadh
9. Kheda	7,194	24,51,387	Kheda
10. Kachchha	45,612	8,49,769	Bhuj
11. Mahesana	9,027	20,92,468	Mahesana
12. Panchmahals	8,866	18,48,804	Godhra
13. Rajkot	11,203	16,24,072	Rajkot
14. Sabarkantha	7,390	11,87,637	Himatnagar
15. Surat	7,745	17,86,924	Surat
16. Surendranagar	10,488	8,45,454	Surendranagar
17. The Dangs	1,683	94,185	Ahwa
18. Vadodara	7,788	19,80,065	Vadodara
19. Valsad	5,238	14,28,742	Valsad

¹ As on 5 March 1981

HARYANA

Area : 44,222 sq km
Population : 1,00,36,808*Capital* : Chandigarh*Principal language* : Hindi

AGRICULTURE Over 82 per cent of the people of Haryana are engaged in agricultural pursuits. Out of the total cultivable area of 37.64 lakh hectares in the state, 52.5 per cent was irrigated during 1978-79. The state is surplus in foodgrains, particularly wheat, rice, barjra, barley and gram. Other important crops are sugarcane, oilseeds and cotton. Production of foodgrains in 1979-80 was 50.32 lakh tonnes as against 63.34 lakh tonnes in 1978-79; production of sugarcane (gur) was 3.95 lakh tonnes in 1979-80 as against 6.89 lakh tonnes in 1978-79; production of cotton was 5.90 lakh bales in 1979-80 as against 6.01 lakh bales in 1978-79; production of oilseeds was 0.72 lakh tonnes in 1979-80 as against 0.95 lakh tonnes in 1978-79.

The shortfall in agricultural production during 1979-80 has been due to serious drought conditions faced in the states.

Forests cover about 3.7 per cent of the state's area.

INDUSTRY Some of the minerals found are limestone, slate, dolomite, building stone, road metals, china clay and marble. However occurrence of graphite and quartzites has been reported at several places in the state.

The major industries are cement, sugar, paper, cotton textiles, glassware, brassware, cycles, tractors, motor cycles, time-pieces, automobile tyres and tubes, sanitaryware, television sets, steel tubes, hand tools, cotton yarn, refrigerators, vanaspati ghee and canvas shoes etc. A factory of the central government undertaking, the Hindustan Machine Tools, which is producing tractors, is located at Pinjore.

IRRIGATION AND POWER Haryana is beneficiary of the multipurpose projects on rivers Sutlej and Beas, where it shares the benefits with Punjab and Rajasthan. The major irrigation projects of the state include the Western Yamuna Canal, the Bhakra Canal System and the Gurgaon Canal. The state has completed lift irrigation schemes like Jui, Loharu and Sewani canals. The biggest lift irrigation scheme namely Jawahar Lal Nehru Project is in advance stage of completion. Work on construction of Sutlej Yamuna Link Project which will transport Haryana's share in surplus Ravi-Beas waters is also nearing completion in Haryana territory.

The total installed power capacity on 31 December 1980 was 1,089 mw from various hydel and thermal stations. This includes Haryana's share from Bhakra Nangal, Beas project and Indraprastha thermal power station in which Haryana is a partner state and also Haryana's own thermal power generation stations at Faridabad and Panipat. Haryana is the first state in India to achieve 100 per cent rural electrification. By March 1971, all the 6,731 villages had been electrified whereas in 1951 not a single village had electricity. For irrigation, 2,19,223 pumpsets/tubewells had been energised by 30 November 1980 as against 743 in 1956.

**IMPORTANT
TOURIST
CENTRES**

Important tourist centres are Badkhal lake; Surajkund, Dabchik, Hodel, Rosy Pelican, Sultanpur, Gurgaon, Barbet, Sohna, Yadavindra Gardens, Pinjore, etc.

**Council of
Ministers¹**

Governor : G. D. Tapase

Chief Minister : Bhajan Lal

Cabinet Ministers : K. L. Poswal, Kurshid Ahmed, Shamsheer Singh Surjewala, Lachhman Singh, Mehar Singh Rathi, Bir Singh, Tara Singh, Ram Pal Singh, Gajraj Nagar, Jagan Nath, Shiv Ram, Sher Singh, Dalip Singh, Mange Ram Gupta and Des Raj.

State Ministers : Devinder Sharma, Shanti Devi and Shakuntala Bhagwaria.

Deputy Ministers : Lal Singh, Sardar Khan and Prem Singh

**Legislative
Assembly¹**

Chief Parliamentary Secretary : Ram Kishan

Speaker : Col. Ram Singh

Dy. Speaker : Kanwar Vijay Pal Singh

High Court¹

Chief Justice : S. S. Sandhawalia

Judges : P. C. Jain, S. C. Mital, D. S. Tewatia, B. S. Dhillon, Gurnam Singh, M. R. Sharma, R. N. Mittal, S. S. Sidhu, A. S. Bains, K. S. Tiwana, Harbans Lal, Surinder Singh, S. P. Goyal, C. S. Tiwana, J. M. Tandon, S. S. Dewan, J. V. Gupta, S. S. Kang, G. C. Mittal, I. S. Tiwana and M. M. Punchhi.

Registrar : S. S. Sodhi

**Public Service
Commission¹**

Chairman : Balbir Singh

Members : R. R. Sharma, Daulat Ram R. C. Madihia and Gurnesh Bishnoi.

Chief Secretary : Ishwar Chandra

**AREA, POPULATION
AND HEADQUARTERS
OF DISTRICTS**

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Hissar	6,331	11,27,525	Hissar
2. Sirsa	4,279	5,33,604	Sirsa
3. Bhiwani	5,090	7,61,953	Bhiwani
4. Gurgaon	2,726	6,56,665	Gurgaon
5. Faridabad	2,163	7,15,532	Faridabad
6. Jind	3,311	7,72,111	Jind
7. Mahendragarh	2,983	7,24,143	Narnaul
8. Ambala	3,833	10,98,405	Ambala
9. Karnal	3,725	9,88,437	Karnal
10. Kurukshetra	3,738	8,62,899	Kurukshetra
11. Rohtak	3,843	10,98,548	Rohtak
12. Sonapat	2,200	6,86,986	Sonapat

¹As on 7 March 1981.

HIMACHAL PRADESH

Area : 55,673 sq km

Population : 34,60,434

Capital : Simla

Principal languages : Hindi and Pahari

AGRICULTURE Agriculture and horticulture are the mainstay of Himachal Pradesh's economy. Roughly 76 per cent of the total working population is engaged in these pursuits. Irrigated area forms only about 20 per cent of the net area sown. However, the agro-climatic conditions in the state are most suitable for growing a wide variety of fruits and cash crops like seed potatoes, ginger, chikori vegetable seeds, apples, stone fruits, etc. Stress is being laid on the development of new crops like hops, olives, figs and mushrooms. Wheat, maize and rice are the major foodcrops. The production of foodgrains during 1978-79 was 10.60 lakh tonnes as against 7.04 lakh tonnes during 1966-67.

The state is gifted with a variety of agro-climatic conditions due to different elevation zones which make it an ideal region for growing many kinds of fruits. Besides apples, excellent variety of plums, peaches and apricots are also grown.

Forests occupy 39.2 per cent of the area of the state. The main forest products include timber, fuel wood, gums and resin.

INDUSTRY

Important minerals of Himachal Pradesh are rock salt, slate, gypsum, limestone, barytes, dolomite and pyrites.

Himachal Pradesh is gifted with vast natural resources, cheap power and labour. The state is now gradually making steady progress towards industrialisation. The number of registered small scale industrial units at the end of 1980 was 5,128.

Among the major industries are Nahan Foundry, Nahan Rosin and Turpentine Factories at Nahan and Bilaspur in the public sector and a brewery at Solan in the private sector. Himalaya Fertilizers Ltd., another public sector undertaking commissioned in August 1975, has started commercial production of NPK balanced granulated fertilizers. Besides, a television assembly plant at Solan Electronics Complex, which was commissioned in January 1976, has already started commercial manufacturing television sets in the state. The cement plant set up by the Cement Corporation of India commenced production during 1979.

In the small scale sector, microscopes, watch parts, clinical and industrial thermometers, hospital and heating equipments are being manufactured.

Among the indigenous village industries are sheep-rearing, wood carving and black-smithy, spinning, weaving, leather tanning, pottery and bumboo craft. To encourage industry, the Himachal Pradesh Mineral and Industrial Development Corporation, the Himachal Pradesh State Small Industries and Export Corporation, the Khadi and Village Industries Board and the Handicrafts and Handloom Corporation have been set up.

Industrial areas have been established at Barotiwala, Nagrota, Mehatpur, Paonta-Sahib, Bilaspur, Shamshie Solan, Parwanoo and Peo and industrial estates at Solan, Dharampur, Kangra, Jawali, Mehatpur and Dehra.

IRRIGATION AND POWER

There are no major irrigation projects in the state. A Rs 7 crore medium Giri irrigation scheme, which is the largest irrigation project in the state, has been completed in January 1981. Among power projects, Giri Hydel project, which is the first major project taken up by the state, was completed and went into commercial production during 1978-79. Other power projects in hand are: (i) Rukti hydel project in Kinnaur district, (ii) Rongtong hydel scheme in Lahaul and Spiti district, (iii) Bassi augmentation project in Mandi district, (iv) Bhabha hydel project in Kinnaur district, (v) Binwa hydel project in Kangra district and (vi) Andhra hydel project in Simla district.

Up to March 1980, 8,921 villages out of a total of 16,916 had been electrified.

Tourist Centres

Important tourist places are Parwanoo, Simla, Manali, Dalhousie and Dharamsala.

GOVERNMENT

Governor : Aminuddin Ahmed Khan

Council of Ministers¹

Chief Minister : Thakur Ram Lall

Cabinet Ministers : Shiv Kumar, Hardyal, Sukh Ram, Sat Mahajan, Guman Singh and Ranjit Singh Verma.

Legislative Assembly¹

Speaker : Thakur Sen Negi

High Court¹

Chief Justice : V. D. Misra

Judges : Hira Singh Thakur, Tilak Raj Handa, Vyom Prakash Gupta.

Public Service Commission¹

Chairman : I. C. Katoch

Member : R. C. Sharma

Chief Secretary : K. C. Pandeya

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Bilaspur	1,167	1,94,786	Bilaspur
2. Chamba	6,515	2,51,203	Chamba
3. Hamirpur	1,118	2,65,011	Hamirpur
4. Kangra	5,739	8,00,863	Dharamsala
5. Kinnaur	6,553	49,835	Kalpa
6. Kulu	5,503	1,92,371	Kulu
7. Lahaul Spiti	13,693	27,568	Keylong
8. Mandi	3,951	5,15,180	Mandi
9. Simla	5,131	4,19,844	Simla
10. Sirmur	2,826	2,45,033	Nahan
11. Solan	1,937	2,37,403	Solan
12. Una	1,540	2,62,337	Una

¹ As on 5 March 1981

JAMMU AND KASHMIR

Area : 2,22,236 sq km¹
Capital : Srinagar (Summer)
 Jammu (Winter)

Population : 46,16,632²
Principal languages : Kashmiri,
 Dogri, Gojri, Urdu, Balti,
 Dardiro, Pahari and Ladakhi

AGRICULTURE The economy of Jammu and Kashmir is largely agrarian. More than 80 per cent of the population depends on agriculture for its livelihood. Main crops are rice, maize, wheat and barley. The state harvested a record crop of well over 12 lakh tonnes in 1978-79, compared to 11.24 lakh tonnes in 1977-78. Production of foodgrains in 1974-75 has been estimated at 7.78 lakh tonnes. The area under high yielding varieties increased from 3.08 lakh hectares in 1975-76 to 4 lakh hectares in 1977-78. Last year more than 25,000 hectares were covered and by the end of current year, another 11,000 hectares are being added. Horticulture has made considerable progress in recent years. Production of fruits has gone up to 4.75 lakh tonnes. Fruit exports have also shown a remarkable increase over the years.

INDUSTRY Over 5,000 small scale industrial units are currently in production in the state, providing employment to over 27,000 skilled and unskilled workers.

Main cottage industries are carpet and shawl making, engraved carpentry and handicraft. Production in the handicrafts has gone up from Rs 7.50 crore in 1974-75 to Rs 35.32 crore in 1978-79. Of this, handicrafts worth Rs 2 crore were exported.

Among the other industries which have come up in the state are the HMT watch factory and an ancillary unit of the Indian Telephone Industries, both at Srinagar.

IRRIGATION AND POWER Major irrigation schemes already completed are Kathua canal and Pratap canal which irrigate an area of 17,140 hectares. Under the Tawi lift irrigation scheme, which was commissioned in 1973-74, part benefits have already started accruing. The state has taken up the Ravi canal project, a major irrigation scheme to irrigate a cropped area of about 54,000 hectares.

Power generation registered an increase and stands at well over 200mw now after the commissioning of the lower Jhelum hydel project. Other power projects under different stages of implementation are Salal hydel project and Karrah micro hydel scheme.

Important power schemes implemented since 1947 are the Gander-Chenani, Kalakot and Upper Sind.

The power supply system in the Valley has been linked with that of northern India with the commissioning of the high voltage transmission lines between Srinagar and Pathankot in 1974.

¹Includes area under illegal occupation of Pakistan and China.

²Excludes population of area under the illegal occupation of Pakistan and China.

A total of 4,500 villages have been electrified as compared to nil in 1951.

GOVERNMENT Governor : L. K. Jha

Council of Ministers¹

Chief Minister : Sheikh Mohammad Abdullah

Cabinet Ministers : D. D. Thakur, G. M. Shah, M. K. Tickoo and G. N. Kochak

Ministers of State : G. M. Bhadrawahi, Ghulam Qadir Mir, Harbhajan Singh, Bashir Ahmed, M. A. Khan, Mohammad Shafi, Parmanand and Tilak Raj Attri.

Deputy Ministers : B. A. Kichloo, Ghulam Ahmed Ganai, Ghulam Din Shah, Habib Ullah, Abdul Rashid Shaheen, Hissam Ud-Din Bandey, Dilawar Mir, Mohammad Hussain and P. N. Raju.

Legislative Council¹

Chairman : Hakim Habib Ullah

Legislative Assembly¹

Speaker : Malik Mohi-ud-Din

Dy. Speaker : Janak Raj Gupta

High Court¹

Chief Justice : Mufti Baha-ud-Din Farooqi

Judges : A. S. Anand, G. M. Mir and I. K. Kotwal.

Public Service Commission¹

Chairman : Chaudhary Bharat Bhushan

Members : Nazir Ahmed Khan, Pushkar Nath Kaul, Sajida Zamir Ahmed and Ghulam Nabi Drabu.

Chief Secretary : S. M. Aga

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Anantnag (Kashmir South)	5,382	8,32,280	Anantnag
2. Baramula (Kashmir North)	7,458	7,75,724	Baramula
3. Doda	11,691	3,42,220	Doda
4. Jammu	3,165	7,31,743	Jammu
5. Kathua	2,651	2,74,671	Kathua
6. Ladakh ²	95,876	1,05,291	Leh
7. Poonch ²	1,658	1,70,787	Poonch
8. Rajouri	2,681	2,17,373	Rajouri
9. Srinagar	3,013	8,27,697	Srinagar
10. Udhampur	4,549	3,38,846	Udhampur
11. Mirpur ³	84,112	N.A.	N.A.
12. Muzaffarabad ³			
13. Gilgit Agency ³			
14. Hunza ³			

¹As on 7 March 1980.

²Includes area under the illegal occupation of China.

³Four districts (Sl. Nos. 11 to 14) are under the illegal occupation of Pakistan.

N.A. : Not available.

KARNATAKA

Area : 1,91,773 sq km
Capital : Bangalore

Population : 2,92,99,014
Principal language : Kannada

AGRICULTURE Karnataka is predominantly agricultural. Of the cultivated area of 18.07 lakh hectares, 18 per cent is irrigated. Major food crops are rice, ragi, jowar, wheat, millets and pulses. The main cash crops are sugarcane, cotton, oilseeds, tobacco, coconut, arecanut, coffee, cashew, cardamom, pepper and grapes. Production of foodgrains during 1977 was 64.45 lakh tonnes, sugarcane 104 lakh tonnes, oilseeds 9 lakh tonnes, cotton 9 lakh bales and pulses 5.41 tonnes.

Forests cover 15.2 per cent of the area of the state. High quality timber, sandalwood, eucalyptus, teakwood and bamboo are major forest products. Other forest products are high quality rosewood, softwood suitable for industrial purposes, and other valuable timbers.

INDUSTRY The state is rich in mineral resources. Important among them are high grade iron ore, copper, manganese, chromite and china clay. Karnataka is the only state where gold mining is carried on. There are a number of big industries. Machine tools, aircraft, electronic products, watches and telecommunication equipment are some of the items produced. Important central government undertakings engaged in the production of these items are Hindustan Aeronautics, Hindustan Machine Tools, Bharat Electronics, Indian Telephone Industries, Bharat Earth Movers and National Aeronautical Laboratory. The State-owned Viswesvaraya Iron & Steel Ltd., Bhadravathi, produces special steel and alloy steel with a rated capacity of 77,000 tonnes annually. Kudremukh Iron Ore Project is another major development project of the state. Other flourishing industries are textiles, sugar, soap, chemical and pharmaceutical goods, fertilizer, paper, cement, glass, ceramics, porcelain and electrical goods.

Karnataka accounts for 85 per cent of the raw silk produced in the country. Apart from silk, its sandal soap and sandal oil are well known in world markets.

IRRIGATION AND POWER Karnataka has two large river basins, those of Krishna and Cauvery, besides a number of other rivers used both for irrigation and power generation. The important irrigation schemes are Tungabhadra, Ghataprabha, Malaprabha, Upper Krishna, Bhadra, Harangi, Kabini Hemavathi and Bennethora projects.

The major power projects are Sharavathi hydro-electric project, Shivasamudram hydro-electric project and the power project on Kali river, now under construction. The installed power capacity was 1,055.7 mw. The number of electrified villages stood at 20,000 at the end of 1977. For irrigation, 2,35,000 tube-wells had been energised. The Budget estimate for 1980-82 is Rs 1,037.31 crore

GOVERNMENT *Governor* : Govind Narain

Chief Minister : R. Gundu Rao

Council of Ministers¹ *Cabinet Ministers* : Veerappa Moily, Y. Ramakrishna, G. B. Shankar Rao, A. B. Jakanur, A. K. A. Samad, Dharm Singh, Begane Ramiah, C. M. Ibrahim, M. M. J. Sadyojatha, Smt. Renuka Rajendran.

¹ As on 19 March 1981

Kagodu Timmappa, P. Venkataramana, H. C. Srikantiah, Mallik-arjuna Kharge, G. Madegowda and Manik Rao Shamarao Patil.

Ministers of State : Smt. Manorama Madhwaraj, D. B. Pawar, K. Yenkatappa, Sudhenda Rao Kasbe, Gangadhara Gowda, Smt. Nagamma Keshawamurthy and B. B. Chimmanakatti.

Legislative Council¹

Chairman : NA

Deputy Chairman : NA

Legislative Assembly¹

Speaker : K. H. Ranganath

Deputy Speaker : Bapurao Hulsurkar

High Court¹

Chief Justice : D. M. Chandrashekhar

Judges : K. Bhimaiah, V. S. Malimath, S. R. Range Gowda, E. S. Venkataramaiah, K. Jagannatha Shetty, M. S. Nesargi, M. K. Srinivasa Iyengar, M. N. Venkatachalaiah, M. Rama Jois, N. Venkatachala, K. S. Puttaswamy, P. P. Bopanna, N. R. Kudoor, G. N. Sabhahit, N. D. Venkatesh, M. P. Chandrakantha Raj Urs and M. S. Patil.

Public Service Commission¹

Chairman : G. Duggappa

Members : H. L. Nagegowda, A. B. Mariyappa, B. P. Mallaraj Urs, H. Maharudraiah, P. T. Sasnur and S. H. Ahmed.

Chief Secretary : N. Narasimha Rao

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Bangalore	8,003	33,65,515	Bangalore
2. Belgaum	13,410	24,23,342	Belgaum
3. Bellary	9,898	11,22,686	Bellary
4. Bidar	5,451	8,24,059	Bidar
5. Bijapur	17,056	19,85,591	Bijapur
6. Chickmagalur	7,199	7,36,647	Chickmagalur
7. Chitradurga	10,852	13,97,456	Chitradurga
8. Coorg	4,104	13,78,291	Mercara
9. Dharwar	13,749	23,42,213	Dharwar
10. Gulbarga	16,224	17,39,220	Gulbarga
11. Hassan	6,823	11,02,370	Hassan
12. Kolar	8,223	15,16,646	Kolar
13. Mandya	4,958	11,54,374	Mandya
14. Mysore	11,947	20,77,238	Mysore
15. North Kanara	10,276	8,49,105	Karwar
16. Raichur	14,005	14,15,740	Raichur
17. Shimoga	10,548	13,01,485	Shimoga
18. South Kanara	8,441	19,39,315	Mangalore
19. Tumkur	10,606	16,27,721	Tumkur

KERALA

Area : 38,864 sq km

Population : 2,13,47,375

Capital : Trivandrum

Principal language : Malayalam

AGRICULTURE

Irrigated cropped area forms 12.71 per cent of the total cropped area in Kerala. The state has abundance of cash crops. Cashewnut, arecanut, coconut, cotton, oilseeds, pepper, sugarcane, rubber, coffee,

¹As on 19 March 1980

N.A. Not available

tea, ginger and cardamom are grown extensively. Rice and tapioca are important food crops. Production of rice was 12.69 lakh tonnes in 1978-79 as against 12.95 lakh tonnes in 1977-78. The production of coffee showed a decrease of 23 per cent in 1978-79 over 1977-78.

Forests occupy 27.83 per cent of the area of the state. The forest wealth consists of some well-known varieties of timber, such as teak, blackwood, ebony, softwood and rosewood which are in great demand abroad and fetch a high price. The State Forest Development Corporation undertakes a scheme of raising plantations, such as eucalyptus and softwood required for various wood-based industries. The state contributes a major share of sea-fish production of the country. In 1978-78, 3.73 lakh tonnes of fish was netted. During 1978-79, the export of marine products fetched Rs 94 crore in foreign exchange.

INDUSTRY

Important minerals found in the state are limenite, rutile, monazite, zircon, sillimanite and clays, quartz sand and lime shell.

Important industries are coir, cashew, rubber, tea, ceramics, electrical and electronic appliances, telephone cables, transformers, bricks and tiles, drugs and chemicals, general engineering, plywood, splints and veneers, beedi and cigar, soaps, oils and fertilizers.

In recent years, a number of manufacturing units have sprung up for producing precision instruments, machine tools, petroleum and petroleum products, fertilizers and allied products, paints, aluminium, communication cables, rubber, rayon, pulp, paper, plywood, scooter glass and non-ferrous metals.

Principal export products are cashew-nut, tea and coffee, pepper and other spices, lemongrass oil, seafoods, rosewood, coir and coir products and rubber products.

The Kerala State Industrial Development Corporation and Kerala Financial Corporation provide financial assistance to private industries while the Plantation Corporation of Kerala has undertaken large scale expansion of rubber and oil plantations.

IRRIGATION AND POWER

Major irrigation projects implemented since 1947 are Chalakudy, Peechi, Malampuzha, Neyyar, Pothundy, Gayathri Walayar, Vazhani, Mangalam, and Cheerakuzhy besides the on going projects at Kallada, Pamba, Periyar Valley, Chitturpuzha, Kanhirampuzha, Kuttiadi, Pazhassi, Muvattupuzha, Chimony, Attapady, Karapuzha, Meenachil and Idamalayar. Important power projects are Pallivasal, Sengulam, Neri-amangalam, Panniar, Peringalkuthu, Sholayar Sabarigiri, Kuttiyadi and Idukki.

Heavy rainfall and a large number of swift flowing rivers and streams provide considerable potential for power generation. The total installed capacity in 1978-79 was 1,011.5 mw from various hydel stations. The per capita consumption of power rose from 88.45 units in 1976-77 to 96.47 units in 1977-78.

GOVERNMENT Council of Ministers¹

Governor : Jothi Vencatachellum

Chief Minister : E. K. Nayanar

Cabinet Ministers : Smt K. R. Gouri, M. K. Krishnan, T. K. Ramakrishnan, P. C. Chacko, A. C. Shanmukha Das, Aryadan Mohammed Vakkom Purushothaman, P. S. Sreenivasan, E. Chandrasekharar

¹ As on 6 March 1981

Nair, A. Subba Rao, K. M. Mani, Laxappan Nambadan, Baby John, R. S. Uani, P. M. Ambacker and R. Balakrishna Pillai.

Speaker : A. P. Karlan

Dy. Speaker : M. J. Zacharia

Chief Justice : Vacant (P. Subramonia Potti, in charge).

Judges : P. Subramanian Potti, V. Khalid, G. Viswanatha Iyer, K. Bhaskaran, George Abraham Vadakkal, T. Chandrasekhara Menon, P. Janaki Amma, K. K. Narendran, G. Balagangadharan Nair, S. K. Khader, T. Kochu Thommen and M. P. Menon.

Additional Judges : P. C. Balakrishna Menon and U. C. Bhat.

Chairman : T. M. Savankutty

Members : N. Ramachandran, Thirunallloor Karunakaran, E. P. Antony, Achuth Raj Meloth, K. V. Kumaran and M. C. Cyriac.

Chief Secretary : S. Ananthakrishnan.

AREA, POPULATION
AND HEADQUARTERS
OF DISTRICTS

District	Area (sq km)	Population (1971 census)	Headquarters
1. Alleppey	1,384	21,25,722	Alleppey
2. Cannanore	4,928.8	22,35,829	Cannanore
3. Ernakulam	2,377	21,63,776	Ernakulam
4. Idukki	3,027	7,65,666	Idukki
5. Kottayam	2,196	15,39,030	Kottayam
6. Kozhikode	2,313.25	18,21,734	Kozhikode
7. Malappuram	3,638	12,56,362	Malappuram
8. Palghat	4,400	16,86,342	Palghat
9. Quilon	4,623	24,12,821	Quilon
10. Trichur	3,032	21,28,797	Trichur
11. Trivandrum	2,182	21,98,606	Trivandrum
12. Wynad	2,124.96	4,13,850	Kalpetta

MADHYA PRADESH

Area : 4,42,841 sq km

Capital : Bhopal

Population : 4,16,54,119

Principal language : Hindi

AGRICULTURE

The economy of Madhya Pradesh is agriculture-based. Nearly 80 per cent of the population lives in villages. The state has about 53 lakh farming families cultivating 18.5 million hectares of land. Of this cropped area, only 15 per cent is irrigated. The main food crops are jowar, wheat, rice and gram. Important among the commercial crops are oilseeds, cotton and sugarcane. The state touched a record production of 10.3 million tonnes of cereals in 1977-78; its share of pulses production in the country revolves round 20 per cent; oilseeds production touched the mark of 0.74 million tons, of cotton 0.30 million bales marks and that of sugar 2.46 million tons (in terms of gur). The state has entered a new era of soyabean production which is estimated to be of the order of 0.42 million tons during 1980-81.

Forests cover nearly 30 per cent of the total area of the state. The forests are chiefly of sal, babul, salai, dhavra, tendu, mahwa, teek, anjam and harra. They are also the chief source of best quality teak.

INDUSTRY

The south-eastern and eastern areas of the state are rich in minerals. Coal, iron ore, limestone, dolomite, bauxite, copper phosphorite, felspar, asbestos, diamond and manganese ore are the principal deposits.

The major industries established in various parts of the state are : the steel plant at Bhilai, the Bharat Heavy Electricals at Bhopal, the aluminium plant at Korba, the security paper mills at Hoshangabad, the currency printing press at Dewas, the newsprint mill at Nepanagar, Orient Paper Mill at Amlai and Alkoloid factory, Neemuch, cement factories at Kymore, Jamul, Banmore, Satna, Tilda, Neemuch, Akaltara and Mandhar, cable factory, Satna, Bakery unit, Indore, leather goods factory, Dewas, explosives factory, Korba, paper and pulp products, Bastar, Vehicle Factory, Ordnance Factory and Gun Carriage Factory and Posts and Telegraphs Workshop, Jabalpur. There are in all 23 textile mills in the state, seven of them are nationalised. The number of heavy and medium industries in the state is 198 and the number of small scale industries in production is 75,038. Other industries include potteries, sugar mills, straw board mills, refractories, textile machinery, steel casting and rerolling, industrial gases, synthetics and drugs, biscuit manufacturing, engineering tools, mini steel plants, chemical fertilizer, insecticides and pesticides, solvent extraction plants, rayon and art silk dry batteries, gears, electrodes and electrical goods. Thirty-six out of forty-five districts in the state are categorised as industrially backward districts.

IRRIGATION AND POWER

Important irrigation projects of Madhya Pradesh are Chambal, Tawa, Barna, Hasdeo R.B.C., Mahanadi Reservoir, Bargi, Narmadasagar, Bansagar, Hasdeo-Bango, Upper Wainganga and Madikheda on Sindh. Some projects like Chambal, Hasdeo RBC, Barna Ravi-shankar Sagar, Pairi and Sindh diversion with a total irrigation potential of about 5 lakh hectares, were recently completed.

Under medium and minor irrigation programme, work is in progress on 76 medium and 2,078 minor irrigation projects with a total irrigation potential of 9.91 lakh hectares. A special irrigation development programme launched in tribal areas of the state is in progress. Of the schemes mentioned above, 19 medium and 816 minor irrigation schemes are in tribal sub-plan areas.

Madhya Pradesh has good potential of hydro-electric power generation. The installed power generating capacity in the state as at the end of March 1980 was 1300.5 mw of which 193 mw was from hydel sources. One unit of 210 mw capacity at Satpura thermal power station was commissioned during 1980-81.

At the end of January 1981, 34.2 per cent of the total number of populated villages, covering 54 per cent of the rural population of the state, have been electrified.

Governor : Bhagwat Dayal Sharma

Chief Minister : Arjun Singh.

Dy. Chief Minister : Shiv Bhanu Solanki.

Cabinet Ministers : Kum. Vimla Verma, Krishnapal Singh, Madhavlal Dube, Jhumuklal Bhendia, Ved Ram, Dr Tumanlal and Suresh Seth.

Ministers of State : Chandra Prabhash Shekhar, Muni Prasad Shukla.

¹ As on 5 March 1981

Rewanath Choure, Digvijay Singh, Manakuram Sodi, Balkavi Bairagi, Bhawar Singh Porte, Hazi Inayat Khan, Kanhaiya Lal Sharma, Bhawanilal Verma, Blasius Ekka, Tara Singh Viyogi, Nathuram Ahirwar and Hajarilal Raghuvanshi.

Legislative
Assembly¹

Speaker : Yagyadutta Sharma
Deputy Speaker : Ram Kishore Shukla

High Court¹

Chief Justice : Guru Prasanna Singh.

Judges : Goverdhanlal Jamnalal Oza, Krishna Kumar Dube, Navin Chandra Dwivedi, Jagdish Sharan Verma, Gangadhar Ganesh Sohni, Manohar Lal Malik, Roshan Lal Murab, Ummaidlal Nandlal Bachavat, Chaitanya Prakash Sen, Shyam Swaroop Sharma, Padmakar Dinkar Mulye, Anand Ramchandra Navkar, Hargovind Mishra, Chandra Pal Singh, Ram Krishna Vijayvargiya and Bipin Chandra Verma.

Additional Judges : Shashi Kant Seth, Faizam Uddin, Ramesh Chandra Shrivastava, Manohar Durga, Shankar Bhatt and Koushalendra Nath Shukla.

Public Service
Commission¹

Chairman : N. Sundaram
Member : Bharat Chandra Kabra, V. S. Keshar and Dr S. M. Mishra.

AREA, POPULATION
AND HEADQUARTERS
OF DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Balaghat	9,245	9,77,583	Balaghat
2. Bastar	39,060	15,15,956	Jagdalpur
3. Betul	10,061	7,36,196	Betul
4. Bhind	4,467	7,93,955	Bhind
5. Bilaspur	19,905	24,40,962	Bilaspur
6. Chhatarpur	8,690	7,12,385	Chhatarpur
7. Chhindwara	11,824	9,89,413	Chhindwara
8. Damoh	7,301	5,73,263	Damoh
9. Datia	2,034	2,55,267	Datia
10. Dewas	7,014	5,94,336	Dewas
11. Dhar	8,149	8,42,400	Dhar
12. Durg	19,670	24,61,901	Durg
13. East Nimar	10,705	8,79,331	Khandwa
14. Guna	11,017	7,83,748	Guna
15. Gwalior	5,213	8,58,005	Gwalior
16. Hoshangabad	10,016	8,05,870	Hoshangabad
17. Indore	3,910	10,25,150	Indore
18. Jabalpur	10,164	16,86,030	Jabalpur
19. Jhabua	6,781	6,67,811	Jhabua
20. Mandasaur	9,726	9,61,522	Mandasaur
21. Mandla	13,257	8,73,577	Mandla
22. Morena	11,586	9,85,338	Morena
23. Narsinhapur	5,138	5,19,270	Narsinhapur
24. Panna	7,122	4,29,067	Panna
25. Raigarh	12,910	12,78,705	Raigarh
26. Raipur	21,251	26,13,531	Raipur
27. Raisen	8,396	5,53,026	Raisen
28. Rajgarh	6,163	6,44,346	Rajgarh

¹As on 5 May 1981

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
29. Ratlam	4,859	6,26,534	Ratlam
30. Rewa	6,315	9,77,894	Rewa
31. Sagar	10,246	10,62,291	Sagar
32. Satna	7,495	9,13,531	Satna
33. Sehore	9,015	10,84,933	Sehore
34. Seoni	8,752	6,68,352	Seoni
35. Shahdol	14,028	10,29,839	Shahdol
36. Shajapur	6,201	6,78,359	Shajapur
37. Shivpuri	10,285	6,76,567	Shivpuri
38. Sidhi	10,532	6,76,786	Sidhi
39. Surguja	22,337	13,26,439	Ambikapur
40. Tikamgarh	5,047	5,68,885	Tikamgarh
41. Ujjain	6,081	8,62,516	Ujjain
42. Vidisha	7,433	6,58,427	Vidisha
43. West Nimar	13,441	12,84,812	Khargone
44. Bhopal	2,763	5,72,169	Bhopal
45. Rajnandgaon	11,003	9,92,774	Rajnandgaon

MAHARASHTRA

Area : 3,07,762 sq km
Capital : Bombay

Population : 5,04,12,235
Principal language : Marathi

AGRICULTURE About 70 per cent of the people in Maharashtra depend on agriculture. Irrigated area forms only about 12.2 per cent of the total cropped area. The principal food crops are wheat, rice, jowar, maize, bajra and pulses. Production of foodgrains during 1979-80 totalled 103.62 lakh tonnes. Important cash crops are cotton, sugarcane, groundnut and tobacco and their production during 1979-80 was : sugarcane (gur) 21.57 lakh tonnes, cotton 17.30 lakh bales, groundnut 5.38 lakh tonnes of pods and tobacco 0.07 lakh tonnes in 1978-79. Of the total area, forests occupy 20.1 per cent.

INDUSTRY

Maharashtra is endowed with sizeable deposits of iron ore, coal, manganese ore, bauxite and limestone. Manganese ore in the Vidarbha region has enabled the state to develop ferro-manganese industry. An electro-smelting factory has been set up in Chandrapur district.

There are several large-scale industries including textiles, ginning and pressing, silk, rayon, synthetic fabrics and vegetable products. Nasik, Aurangabad, Nagpur, Roha, Tarapur and Ahmednagar have come up as new industrial growth centres. Most of the textile mills are located in Bombay. Maharashtra is also a major sugar-producing state. Important chemical industries include nitrogenous fertilizers, superphosphates, petro-chemicals, drugs and pharmaceuticals and photographic chemicals. Emergence of oil fields at Bombay High and Bassein North and the new fertiliser unit at Thal—Vaishet near Alibag have given further boost to the petro-chemical industry in the state. Development of minerals in Vidarbha and Ratnagiri and launching of deep sea-fishing programme has opened new vistas for the development of marine industries and fish processing units in the coastal area of the state.

Various types of engineering goods, such as machine tools, steel and malleable iron castings, welding electrode ball-bearings and agricultural implements are manufactured for domestic consumption as well as for export. Maharashtra leads in the motion picture industry. It also leads in the sophisticated field of electronics. Santa-cruz Electronics Export Processing Zone, a free trade zone for 100 per cent export of electronic goods, has started functioning near the airport at Bombay. A Rs 2-crore project to manufacture industrial files is being set up at Ratnagiri. A number of defence and public sector industries are also located in the state.

IRRIGATION AND POWER

Since 1947, nine major irrigation projects viz. Zir, Ghod, Girna, Purna, Pus, Bagh, Itiadoh, Kal and Tulshi have been completed. Irrigation potential on a large scale has been created on Mula, Upper Godavari, Jayakwadi, stage I projects and these projects are expected to be completed during the Sixth Plan period. In addition, partial potential on eight more major projects viz. Kukadi, Bhima, Khadakwasla, Krishna, Manjra, Jayakwadi stage II, Pench and Surya has been created. During the Plan era of 29 years, 90 medium projects have been completed. Further partial potential on 28 medium projects has been created.

The major hydro-thermal and nuclear power projects are Koyna, Tarapur, Tata Hydro, Nasik Koradi, Bhusaval, Paras and Khaparkheda, Ballarshah and Parli. The derated installed capacity is 3,316 mw. Maharashtra had only 38 electrified villages in 1951, the number increased to 27,180 by 31 January 1981. During this period, as many as 6,52,886 agricultural pumps have been energised, compared to 142 in 1951.

IMPORTANT TOURIST CENTRES

Important tourists centres are Ajānta, Ellora, Elephanta, Kanheri, Karla, hill stations like Mahabaleshwar, Matheran and Panchgani. The prominent religious places are Pandharpur, Nasik, Shirdi, Anudha-Nagnath, Nanded and Ganpati Pule etc.

GOVERNMENT *Governor* : Om Prakash Mehra.

Council of Ministers¹

Chief Minister : A. R. Antulay

Cabinet Ministers : Smt Shalinitai Patil, Ramrao Adik, Jawaharlal Darda, Baburao Kale, B. J. Khatal, Dr. Baliram Hiray, Shivajirao Patil Nilangekar, Babasaheb Bhosle, Bhagwantrao Gaikwad, Smt Premila Bhanushankar Yagnik, Jayantrao Tilak, N. M. Tidke, Surupsing Naik and Nanabhan Empadwar.

Ministers of State : Abhay Singh Bosle, Khan Mohammad Azhar Hussain, Suresh Doetale, Satish Chaturvedi, D. S. Kamale, Smt Tarabai Vartak, S. N. Desai, Haribhau Naik, Chandrakant Tripathi and Premanand Awale.

Legislative Council¹

Chairman : R. S. Govai

Deputy Chairman : A. G. Pawar

Legislative Assembly¹

Speaker : Sharad Dighe

Deputy Speaker : S. C. Jagtap

High Court¹

Chief Justice : V. S. Deshpande

Judges : D. P. Madon, M. N. Chandurkar, M. H. Kania, S. K. Desai,

¹ As on 5 March 1981

B. A. Masodkar, C. S. Dharmadhikari, P. S. Shah, D. M. Rege, R. L. Aggarwal, B. Lentin, P. B. Sawant, B. C. Gadgil, A. A. Ginwala, R. A. Jahagirdhar, S. C. Pratap, M. P. Kanade, S. P. Bharucha, R. D. Tulpule, V. V. Joshi, Sujata Manohar, M. L. Pendse, S. P. Kurdukar, D. N. Mehta, V. S. Kotwal, M. S. Jamdar, M. R. Waikar, Sharad Manohar, D. P. Deshpande, R. S. Padhye, V. A. Mohta, B. J. Rele, N. K. Parekh, R. S. Bhonsale, A. N. Mody, P. G. Palashikar and S. W. Puranik.

Public Service
Commission¹

Chairman : Dr K. G. Deshmukh.

Members : B. A. Ansari, N. S. Deodhar, M. G. Gavai, P. G. Patil and Dr M. V. Suryawanshi.

Chief Secretary : P. G. Gavai.

AREA, POPULATION
AND HEADQUARTERS
OF DISTRICTS

<i>District</i>	<i>Area</i> (sq km)	<i>Population</i> (1971 census)	<i>Headquarters</i>
1. Ahmednagar	17,035	22,69,117	Ahmednagar
2. Akola	10,567	15,01,478	Akola
3. Amravati	12,210	15,41,209	Amravati
4. Aurangabad	16,200	19,71,006	Aurangabad
5. Bhandara	9,214	15,85,580	Bhandara
6. Beed	11,227	12,86,121	Beed
7. Buldana	9,745	12,62,978	Buldana
8. Chandrapur	25,641	16,40,137	Chandrapur
9. Dhule	13,143	16,62,181	Dhule
10. Greater Bombay	603	59,70,575	Bombay
11. Jalgaon	11,771	21,23,121	Jalgaon
12. Kulaba	7,198	12,63,003	Alibagh
13. Kolhapur	8,059	20,48,049	Kolhapur
14. Nagpur	9,928	19,42,688	Nagpur
15. Nanded	10,492	13,97,762	Nanded
16. Nasik	15,582	23,69,221	Nasik
17. Usmanabad	14,117	18,96,687	Usmanabad
18. Parbhani	12,489	15,06,771	Parbhani
19. Pune	15,640	31,78,029	Pune
20. Ratanagiri	13,040	19,90,583	Ratnagiri
21. Sangli	8,563	15,39,820	Sangli
22. Satara	10,492	17,27,376	Satara
23. Solapur	15,021	22,53,840	Solapur
24. Thane	9,553	22,81,664	Thane
25. Wardha	6,307	7,79,562	Wardha
26. Yavatmal	13,925	14,23,677	Yavatmal

MANIPUR

Area : 22,356 sq km
Capital : Imphal

Population : 10,72,753
Principal language : Manipuri

AGRICULTURE

The main occupation of 66 per cent of the population of Manipur is agriculture. Nearly 92 per cent of the total land area is hilly and covered with forests. Forest reserves are being developed by planting better species of timber. Bamboo is found in large quantities. In the Jiri and Barak river drainage area alone, bamboos cover an

¹ As on 5 March 1981

estimated area of 2,585 sq km yielding 3,00,000 tonnes annually. Main crop is paddy, while wheat and maize are also grown in some areas. Orchards are also being set up. During 1977-78, the kharif production of paddy increased to 3.94 lakh tonnes as against 2.88 lakh tonnes in 1976-77.

INDUSTRY

The state has no large scale industry. Handloom weaving is the largest single cottage industry. Other cottage industries are sericulture, bamboo and cane articles, carpentry, blacksmithy, leather goods, edible oil crushing, rice milling, gur and khandsari.

To accelerate the development of small scale industries, an industrial advisory board has been set up and the jurisdiction of Assam Financial Corporation extended to Manipur. At Takyelpat near Imphal, an industrial estate is being set up.

IRRIGATION AND POWER

Irrigation is done through minor irrigation works by constructing weirs across running streams for better distribution of water during the monsoons.

Loktak is the only major power project in the state. The total installed capacity of power, both hydel and thermal, in 1976-77 was 10,338 kw. Manipur had only nine electrified villages before 1951; the number increased to 274 during 1978-79.

GOVERNMENT *Governor : L. P. Singh***Council of Ministers¹**

Chief Minister : R. K. Dorendra Singh

Cabinet Ministers : Rishang Keishing and Ngurdinglien

Ministers of State : Helaluddin Khan, Holkholet Khongsai, Devendra Singh, Th. Choaba Singh, Th. Krishna Singh.

Legislative Assembly¹

Speaker : Y. Yaima Singh.

Dy. Speaker : H. Lokhon Singh.

High Court

The jurisdiction of Gauhati High Court extends over Manipur. For list of judges, see under Assam.

Public Service Commission¹

Chairman : D. Krishna Ayaar.

Members : L. Solomon and K. Gourakishore Singh.

Chief Secretary : L. B. Thanga

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Manipur Central	2,230	7,24,537	Imphal
2. Manipur East	4,409	62,229	Ukhrul
3. Manipur North	3,417	1,04,175	Senapati
4. Manipur South	4,581	98,114	Churachandpur
5. Manipur West	4,344	44,975	Tamenglong
6. Tengnoupal	3,375	38,723	Chandel

¹As on 21 March 1980

MEGHALAYA

Area : 22,489 sq km¹
Capital : Shillong

Population : 10,11,699
Principal languages : Khasi, Jaintia
 and Garo

AGRICULTURE Over 80 per cent of the people of Meghalaya are engaged in agricultural pursuits. Irrigated area is about 27 per cent of the cultivated area. The principal crops are potato, *tezpata*, sugarcane, oilseeds, cotton, jute, *mesta* and arecanut. Selected areas have been earmarked for growing high-yielding varieties of paddy, wheat and maize. In the Khasi and Jaintia Hills districts fruits and vegetables are also grown and special programmes have been undertaken to develop horticulture. The production of foodgrains is around 1,30,000 tonnes annually. The annual production of cash crops is estimated to be : jute 50,000 bales, potato 71,000 tonnes and tapioca 5,000 tonnes. The state is making good progress in horticulture. It produces about 70,000 tonnes of pineapples, 80,000 tonnes of oranges and 35,000 tonnes of bananas annually.

Forests and forest-products are the chief resources of the state. Economic plantations of industrial and commercial use are being undertaken extensively.

INDUSTRY The mineral wealth of the Khasi Hills, Jaintia Hills and Garo Hills districts includes coal, sillimanite, limestone, dolomite, fire clay, felspar, quartz and glass sand. Ninety-five per cent of India's total output of sillimanite is produced in the Khasi Hills district. The Garo Hills district has deposits of coal, limestone, fire clay and light coloured sand-stone. The estimated reserves of coal in the state are about 12,000 lakh tonnes and limestone 21,000 lakh tonnes.

The cement factory at Cherrapunjee produces 590 tonnes of clinker and 605 tonnes of cement daily. The capacity of this factory is being extended to 955 tonnes of cement daily. A timber treatment plant is being set up at Darugiri in Garo Hills. Several mineral-based industries are coming up. A plywood factory and a beverages factory have already been set up.

IRRIGATION AND POWER There are at present four hydel projects with a total installed capacity of 125.2 mw. In addition to this there is a micro hydel station of 1.5 mw capacity at Shillong. The state has electrified 546 villages up to March 1980.

IMPORTANT TOURIST CENTRES Among important tourist centres are Cherrapunjee, Nohsngithiang falls, referred to as Mawsmmai falls, at Mawsmmai village, hot spring at Jakrem, fishing spot at Ranibor and Umiam lake.

The Annual Plan of the state for 1980-81 is Rs 43.31 crores.

GOVERNMENT *Governor* : L. P. Singh

Council of Ministers¹

Chief Minister : B. B. Lyngdoh

Deputy Chief Minister : S. D. Khongwir

Cabinet Ministers : Maham Singh, Humphrey Hadem, Dr. B. Pakem, P. G. Marbaniang, Fuller Lyngdon, D. D. Lapang, M. Reidson Momin, E. Iawphniaw, G. Myllemngap and A. M. Sangma.

¹As reorganised 21 January 1972 according to North Eastern Areas (Re-organised) Act, 1971.

²As on 12 March 1981

Ministers of State : H. B. Dan, P. Sangma and B. G. Momin.

**Legislative
Assembly¹**

Speaker : Winstone Syiemiong.
Dy. Speaker : Smt. M. D. Shira.

High Court¹

The Jurisdiction of Gauhati High Court extends over Meghalaya. For list of Judges, see under Assam.

**Public Service
Commission¹**

Chairman : Dr O. Lyngdoh.
Members : Smt F. Marak and O. Laloo.

Chief Secretary : Ramesh Chandra.

**AREA, POPU-
LATION AND
HEADQUARTERS
OF DISTRICTS**

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. East Khasi Hills } 2. West Khasi Hills }	11,168.1	4,91,209	Shillong Nongstoin Willamnagar
3. East Garo Hills } 4. West Garo Hills }			
5. Jaintia Hills	3,295.5	1,13,875	Jowal

Note : The total area figures of the districts will not tally with the state figures because the former represents land used and are derived from the figures supplied by the State Directorate of Land Records.

NAGALAND

Area : 16,527 sq km
Capital : Kohima

Population : 5,16,449

AGRICULTURE Agriculture is the main occupation of 90 per cent of the population of Nagaland. Rice is the only important foodgrain grown in the state. The total production of rice was 95,000 metric tonnes in 1977-78. The total area operated for cultivation is 6,80,000 hectares. The total terraced rice cultivated area with irrigation is 38,000 hectares.

Forests cover 17.56 per cent of the area of the state and they contribute considerably to the revenues.

INDUSTRY

There is a sugar mill with a crushing capacity of 1,200 tonnes per day at Dimapur. The Nagaland Forest Products Ltd., at Tijit has gone into production. A paper mill with a production capacity of 100 tonnes per day and a distillery unit at Dimapur are being set up. A factory for the production of decorative and commercial plywood is also coming up. Handloom and sericulture are the important cottage industries. There are six weaving-cum-production centres, three cottage industries-cum-production centres, five sericulture farms, one handicraft training-cum-production centre and three small-scale industries service centres.

**IRRIGATION
AND POWER**

Minor irrigation works in the state are mostly meant to divert small hill streamlets to irrigate valleys used for rice cultivation.

¹ As on 12 March 1981.

Total installed capacity of power upto date is 3.17 mw.

Out of 964 villages in Nagaland, the number of electrified villages till now is 275.

GOVERNMENT *Governor* : L. P. Singh

Council of Ministers¹

Chief Minister : John Bosco Jasokie

Cabinet Ministers : Vamuzo, T. Kikon, Lungland, Shurhozellic, Tochi Hanso, Noke Konyak, Sentichuba Ao, Zunkum Imchunger, K. L. Chischi, M. Murry, Dr Setu Leigise, Dallenamo and Imchalamba Ao.
Minister of State : Yopiku and Chenlom.

Legislative Assembly¹

Speaker : Vitsonei K. Angami

Dy. Speaker : Rainbow Ezung

High Court¹

The jurisdiction of Gauhati High Court extends over Nagaland. For list of judges, see under Assam.

Chairman : Vacant

Member : Vacant

Chief Secretary : N. I. Jamir

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Kohima	n.a.	1,30,610	Kohima
2. Mokokchung	n.a.	83,852	Mokokhung
3. Mon	n.a.	64,140	Mon
4. Phek	n.a.	44,594	Phek
5. Tuensang	n.a.	1,08,763	Tuensang
6. Wokha	n.a.	38,297	Wokha
7. Zonheboto	n.a.	47,093	Zonheboto

ORISSA

Area : 1,55,782 sq km
Capital : Bhubaneswar

Population : 2,19,44,615
Principal language : Oriya

AGRICULTURE Over 76 per cent of the people in Orissa are dependent on agriculture. Out of the gross cropped area of 82.75 lakh hectares, 15.97 lakh hectares was irrigated by the end of 1978-79. Rice, pulses, oilseeds, jute, mesta, sugarcane, coconut and turmeric are important crops. During 1978-79, the production of foodgrains was 56.58 lakh tonnes as against 40.75 lakh tonnes during 1976-77. The production of rice during 1978-79 was 44.02 lakh tonnes; wheat 1.1 lakh tonnes, sugarcane 2.08 lakh tonnes, oilseeds 4.27 lakh tonnes and jute 4.39 lakh bales.

¹As on 5 June 1980.
n.a. Not available.

Forests cover 67.92 lakh hectares or 45 per cent of the area of the state. Main forest products are *sal*, teak, rosewood, lac, tusser, silk, medical plants and *kendu* leaves. Lac, tusser and medicinal plants like *nux vomica* and *rauwolfia serpentina* are available from certain forests. Seeds of *sal*, available in abundance, have recently become an economic product of the forests. *Kendu* leaf trade has been nationalised.

INDUSTRY

Orissa is a very important mineral bearing state in the country. Important minerals found in the state include iron ore, manganese ore, limestone, dolomite, chromite, non-coking coal, bauxite, graphite, china clay, nickel ore, vanadium ore, fire clay and mineral sands. The total production of minerals in 1978 was about 148 lakh tonnes.

Since Independence, 49 large industries have been set up in the state in the public and private sectors. Most of them are mineral based. Among them are the Rourkela steel plant, a pig iron plant at Barbil and a ferro-chrome plant at Jajpur Road, two ferro-manganese plants, a ferro-silicon plant and an aluminium smelter plant. The other mineral based industries are two refractory plants and two cement plants. An oxygen plant, an alloy steel casting plant and two jute twine plants have been newly set up. Two solvent extraction plants have been set up at Bhadrak and Rairangpur.

There are three large paper mills at Raigada, Choudwar and Brajarajnagar. The Hindustan Steel Ltd. has also a fertilizer plant at Rourkela. Chemical industries include a caustic soda plant and a salt manufacturing unit at Ganjam and an industrial explosives plant at Rourkela.

Other industries of importance are two large sugar plants, one at Raigada and the other at Aska, the latter in the co-operative sector; a glass works at Baranga, a heavy machine tool plant at Kansbahal, a refrigerator manufacturing unit at Choudwar, a re-rolling mill at Hirakud and three textile mills at Choudwar, Jharsuguda and Bargarh, the last one in the co-operative sector, a phosphatic fertilizer plant at Rourkela, a *sal* seed extraction unit in Mayurbhanj district and a dichromatic plant in Cuttack district.

A good number of major industrial ventures both in the state and central sectors are either under execution or in the pipeline. The central projects under execution are : fertiliser plant at Talcher, Formed coak plant at Talcher, heavy water plant at Talcher, Indian Rare Earth Project at Chhatrapur and wagon repairing shop at Mancheswar, near Bhubaneswar. Infrastructural facilities are being developed for aluminium complex in Koraput district, a fertiliser plant at Paradeep, second steel plant at Paradeep and ship-building yard also at Paradeep. The state's Industrial Development Corporation and the Industrial Promotion and Investment Corporation have also initiated a number of industrial projects.

IRRIGATION AND POWER

Irrigation facilities in the state have expanded considerably since 1947. Irrigation facilities were provided to over 14.28 lakh hectares of land through different sources, viz. major, medium and minor irrigation projects including lift irrigation points. By the end of Fourth Plan, irrigation benefit was provided to 7,71,420 hectares of land. By the end of 1978-79, 3,526 lift irrigation projects have been energised creating irrigation potential for 1,88,516 acres in Kharif and 1,13,109 acres in Rabi. These include 1,744 tube-wells and 1,782 river lifts. A

Rs 750-crore groundwater utilisation scheme is also proposed to be taken up. By the end of July 1979, 2,67,164 wells were sunk. This created irrigation potential for 1,87,500 hectares.

The Hirakud Dam project is a multi-purpose river valley project with the objectives of power generation (270 mw), flood control navigation and irrigation. Balimela H. E. Project, Machhkund H. E. Scheme and Talcher thermal stations are the other important power projects.

The total installed capacity of power, both hydel and thermal, by August 1979 was 914 mw. This will be increased to 1,474 mw by 1983-84 when the three projects which are under execution will be completed. These are Talcher thermal, Rengali multi-purpose project and Upper Kolab H.E. project.

Orissa had 25 electrified villages in 1955-56; the number increased to 17,480 by the end of March 1979.

GOVERNMENT *Governor* : C. M. Poonacha

Council of Ministers¹

Chief Minister : J. B. Patnaik

Cabinet Ministers : Upendra Dixit, Kanhu Charan Lenka, Basudev Mohapatra, Gangadhar Mahapatra, Dayanidhi Naik, Raghunath Patnaik and Rama Chandra Ulaka.

Ministers of State : Harihar Karan, Kuanria Majhi, Jugal Kishore, Patnaik, Bhajaman Behera, Niranjana Patnaik, Basanta Kumar Biswal, Habibullah Khan, Kishore Chandra Patel, Krishna Charan Patnaik and Lalit Mohan Gandhi.

Deputy Minister : Saraswati Hembram.

Legislative Assembly¹

Speaker : Somnath Rath

Dy Speaker : Himansu Sekhar Padhi

High Court¹

Chief Justice : R. N. Mishra

Judges : P. K. Mohanty, N. K. Das, J. K. Mohanty and Brajanath Mishra.

Commission¹

Chairman : N. K. Ray

Members : G. C. Dash, P. Pati, L. D. Mallik and C. Majhi.

Chief Secretary : S. M. Patnaik

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Balasore	6,394	18,30,504	Balasore
2. Boudh Khondmals	11,070	6,21,675	Phulbani
3. Bolangir	8,903	12,63,657	Bolangir
4. Cuttack	11,211	38,27,678	Cuttack
5. Dhenkanal	10,826	12,93,914	Dhenkanal
6. Ganjam	12,527	22,93,808	Chhatrapur
7. Kalahandi	11,835	11,63,859	Bhawanipatna
8. Keonjhar	8,240	9,55,514	Keonjhar
9. Koraput	27,020	20,43,281	Koraput
10. Mayurbhanj	10,412	14,34,200	Baripada
11. Puri	10,159	23,40,859	Puri
12. Sambalpur	17,570	18,44,898	Sambalpur
13. Sundargarh	9,675	10,30,758	Sundargarh

¹ As on 4 February 1981

PUNJAB

Area : 50,362 sq km
Capital : Chandigarh

Population : 1,35,51,060
Principal language : Punjabi

AGRICULTURE About 83 per cent of the total geographical area of Punjab is under cultivation. About 70 per cent of the population is engaged in agricultural pursuits. The state is surplus in foodgrains, especially wheat and rice. Other main foodgrains are maize, bajra, jowar, gram, barley and pulses. Major cash crops are oilseeds, sugarcane, tobacco, cotton and potatoes. The production of foodgrains in 1979-80 was 11.96m. tonnes as against 7.7m tonnes in 1972-73.

The state launched Integrated Rural Development Programme in November 1977 which is aimed at providing gainful employment to the villagers and to revive the traditional rural industries and trades.

An area of 2,24,441 hectares of land was under forest during 1980.

INDUSTRY Punjab is the home of small-scale industries. Sericulture, footwear, machine tools, bicycle parts, sewing machines and parts, plastic goods, pipes, nuts and bolts, wood and machine screws are some of the important small scale industries. As on 31 March 1980, there were 54,637 important small manufacturing units in the state. Punjab also produces 70 per cent of the country's woollen hosiery.

Some of the major industries established recently through the efforts of the Punjab Industrial Development Corporation are tractors, dry cell batteries, polyester fibres, nylon, automobile tyres and tubes, synthetic detergents, scooters, breweries, fertilizers, steel billets, TV sets, electronic components and precision instruments. The Nangal fertilizer factory is a major central government undertaking in the state. The centre is also setting up a naphtha-based fertilizer factory at Bhatinda.

In addition, five new projects have come up during the last two years. These are Biomedical Equipments Ltd., Records Ltd., Digital Industrial System Ltd., Electro Optical System Ltd. and Consumer Electronic Items Ltd. Some of the bio-medical equipments are being made for the first time in the country.

IRRIGATION AND POWER Important irrigation works, implemented since 1947, are the Bhakra Nangal Dam, Bhakra canals, Harike Barrage with a new lined canal called Sirhind Feeder and remodelling of Madhopur Headworks into a barrage. The Madhopur-Beas link was constructed to transfer the surplus waters of river Ravi to Beas. A similar project, the Sutlej-Beas link project, is in an advanced stage of construction.

The fourth unit of Guru Nanak Thermal Power Plant at Bhatinda was commissioned in January 1979. The Pong Dam on river Beas is an important hydro-electric project. The fourth unit of the Dam was commissioned in March 1979. A new thermal plant at Ropar has also been taken up. The third and fourth units at Dehar Power plant were commissioned in June and July 1979 respectively.

The total installed capacity in different fields of power development by 1978-79 was 1,385 mw. The state achieved 100 per cent electrification by May 1976. For irrigation purposes, 5,70,000 tube-wells were energised till March 1979.

The size of the Annual Plan for 1980-81 has been fixed by the state government at Rs 300 crores.

GOVERNMENT *Governor* : Jaisukhlal Hathi

Council of Ministers¹ *Chief Minister* : Darbara Singh
Cabinet Ministers : Dr Kewal Krishan, Santokh Singh Randhawa, Kanshi Ram, Sardari Lal Kapur, Beant Singh, Jagat Ram and Harcharan Singh Ajnala.

Legislative Assembly¹ *Speaker* : Brij Bhushan Mehta
Deputy Speaker : Gulzar Singh

High Court¹ Punjab and Haryana have a common High Court. For list of judges, see under Haryana.

Public Service Commission¹ *Chairman* : Jaswant Rai Bansal
Members : Shiv Dev Singh, Onkar Singh Kalkat, Smt Santosh Choudhry and Niranjan Singh Mitha.

Chief Secretary : K. S. Narang

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Amritsar	5,025	18,35,500	Amritsar
2. Bhatinda	5,564	10,27,293	Bhatinda
3. Faridkot	5,746	11,51,738	Faridkot
4. Ferozepur	5,923	10,44,936	Ferozepur
5. Gurdaspur	3,557	12,29,249	Gurdaspur
6. Hoshiarpur	3,887	10,52,153	Hoshiarpur
7. Jullundur	3,396	14,54,501	Jullundur
8. Kapurthala	1,634	4,29,514	Kapurthala
9. Ludhiana	3,793	14,19,421	Ludhiana
10. Patiala	4,669	12,11,303	Patiala
11. Ropar	2,086	5,48,802	Ropar
12. Sangrur	5,096	11,47,650	Sangrur

RAJASTHAN

Area : 3,42,214 sq km *Population* : 2,57,65,806
Capital : Jaipur *Principal languages* : Rajasthani and Hindi

AGRICULTURE Total gross irrigated area in Rajasthan is about 34.51 lakh hectares while the sown area was about 154.71 lakh hectares in 1978-79. Agricultural production is mainly dependent on rainfall. The principal crops are jowar, bajra, maize, gram, wheat, oilseeds, cotton, sugarcane and tobacco. The total production of foodgrains in 1978-79 was 77.82 lakh tonnes out of which bajra and pulses contributed 14.19 lakh tonnes, sugarcane 21.96 lakh tonnes, oilseeds 5.55 lakh tonnes, cotton 5.70 lakh bales (each of 170 kg) and wheat 28.34 lakh tonnes.

Forests covered 34,914 sq km (estimated) of the state's area during 1978-79.

INDUSTRY Rajasthan accounts for the country's entire output of lead and zinc concentrates, emeralds and garnets. Similarly, 92 per cent of India's gypsum, 90 per cent of silver ore, 75 per cent of asbestos and felspar and 20 per cent of mica are mined here. It has rich salt deposits at Sambhar and other places. Copper mines are situated at Khetri and Dariba.

¹As on 14 May 1981.

Textile, rugs and woollen goods, sugar, cement, glass, sodium producing plant, oxygen and acetylene producing units, manufacture of pesticides, insecticides and dyes are some of the major industries. Other enterprises include the manufacture of caustic soda, calcium carbide, nylon and tyre cord and copper smelting. Among the important central government undertakings in the state is the Precision Instruments factory at Kota. In December 1979, there were 5,754 factories subject to the Factories Act, 1948.

Important handicrafts are marble work, woollen carpets, jewellery, embroidery, articles of leather, potter, and brass embossing.

IRRIGATION AND POWER

The major irrigation schemes implemented since 1947 are the Kota Barrage and Rana Pratap Sagar, both inter-state projects in collaboration with Madhya Pradesh. The Rajasthan Canal will be the longest in the world when completed. Steps are being taken to complete the project by 1985-86. It will irrigate about 12.6 lakh hectares of land in the desert districts. Besides a number of small and medium irrigation schemes, the state is benefited from Bhakra Nangal Project, Gandhi Sagar Dam and Beas Project. Mahi project is also in progress. During 1977-78, the gross irrigated area in Rajasthan was 34.51 lakh hectares.

Rajasthan has at present an installed power capacity of 1,036.9 mega watts. Atomic power project had started its production. The second unit of the RAPP has also started generating during the current year. Rajasthan had only 43 electrified villages and towns in 1951; the number increased to 14,421 up to November 1980. For irrigation, 1,98,255 wells have been energised.

Antyodaya : For the economically poor, the state government launched Antyodaya Scheme on 2 October 1977. So far 2.67 lakh families have been identified and means of livelihood provided to 2.31 lakh families up to November 1979.

IMPORTANT TOURIST CENTRES

Among important tourist centres are Jaipur, Udaipur, Ajmer, Jodhpur, Mount Abu, Chittorgarh, Bundi, Sariska, Slisedh. Bharatpur, Kota, Nathdwara, Jaisalmer and Pushkar.

The budget estimates for 1981-82 are : Receipts Rs 1,517.96 crores, Expenditure Rs 1,548.37 crores.

GOVERNMENT

Governor : Raghukur Tilak.

Council of Ministers¹

Chief Minister : Jagannath Pahadia.

Cabinet Ministers : Hanuman Prasad Prabhakar, Smt. Kamala, Beniwal, Badri Prasad Gupta, Chandan Mal Baid, Hira Lal Deopura, Hari Sahai Meena and Dula Ram.

Ministers of State : Banwari Lal Sharma, Pradyumna Singh, Nana Lal, Ram Kishan, Ghasi Ram Yadav, Dinesh Rai Dangi and Sheesh Ram Ola.

Deputy Ministers : Ishwar Lal Saini, Mangi Lal Arya, Smt Bhagwati Devi, Narendra Singh Bhati, Ram Pal Upadhaya and Abdul Rehman Choudhary.

Legislative Assembly¹

Speaker : Poonam Chand Bishnoi.

Deputy Speaker : Vacant.

High Court¹

Chief Justice : K. D. Sharma.

Judges : D. P. Gupta, M. L. Shrimal, P. D. Kudal, Guman Mal Lodhā,

¹ As on 12 March 1981

Krishna Mal Lodha, Narendra Mohan Kashliwal, Milap Chand Jain and Suresh Chand Agrawal.

Additional Judges : Km Kanta Bhatnagar, M. B. Sharma, S. N. Didwania and K. S. Sidhu.

**Public Service
Commission¹**

Chairman : Vacant.

Members : H. D. Gupta, D. D. Chowhan and S. Adiyappa.

Chief Secretary : M. M. K. Vali.

**AREA, POPU-
LATION AND
HEADQUARTERS
OF DISTRICTS**

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Ajmer	8,479	11,47,729	Ajmer
2. Alwar	8,382	13,91,162	Alwar
3. Banswara	5,037	6,54,586	Banswara
4. Barmer	28,387	7,74,805	Barmer
5. Bharatpur	8,093	14,90,206	Bharatpur
6. Bhilwara	10,450	10,54,890	Bhilwara
7. Bikaner	27,231	5,73,149	Bikaner
8. Bundi	5,550	4,49,021	Bundi
9. Chittorgarh	10,858	9,44,981	Chittorgarh
10. Churu	16,829	8,74,439	Churu
11. Dungarpur	3,770	5,30,258	Dungarpur
12. Ganganagar	20,629	13,94,011	Ganganagar
13. Jaipur	14,000	24,82,385	Jaipur
14. Jaisalmer	38,401	1,66,761	Jaisalmer
15. Jalore	10,640	6,67,950	Jalore
16. Jhalawar	6,216	6,22,001	Jhalawar
17. Jhunjhunu	5,929	9,29,230	Jhunjhunu
18. Jodhpur	22,860	11,52,712	Jodhpur
19. Kota	12,437	11,43,870	Kota
20. Nagaur	17,718	12,62,157	Nagaur
21. Pali	12,391	9,70,002	Pali
22. Sawai Madhopur	10,593	11,93,528	Sawaimadhopur
23. Sikar	7,732	10,42,648	Sikar
24. Sirohi	5,135	4,23,815	Sirohi
25. Tonk	7,200	6,25,830	Tonk
26. Udaipur	17,267	18,03,680	Udaipur

SIKKIM

Area : 7,299 sq km
Capital : Gangtok

Population : 2,09,843
Principal languages: Bhutia,
Nepali, Lepcha and English

AGRICULTURE The state's economy is principally agrarian. Rice, maize, millet, wheat, barley and potato are the main crops. Cardamom, orange and apple are the major cash crops.

Nine regional centres carrying out both experimental research works and extension works are functioning at Gyalshing, Hillay, Burmiok, Nazitam, Pakyong, Mangan, Lachung, Majitar and Namchi. The research efforts of the state government are supplemented by the research centre of Indian Council for Agriculture stationed at Tadong in Gangtok.

¹ As on 12 March 1981

There is a cardamom nursery at Mangan and progeny orchard at Namh and Majitar and apple orchard at Lachen, Ribdi, Varey, Okharay, Uttaray and Phadamchen.

About a third of the area is covered by forests. *Sal* abounds in the south while conifers are found in plenty in the north. Broad leaf varieties grow abundantly in other parts.

Sheep, goats, cattle and yaks are abundant and wool, skins and hides are among the principal raw materials for industries. There is a farm at Pangthang for breeding strains of cattle.

INDUSTRY

A Multi-purpose state-level Industrial Development Investment Corporation has been established with the object of accelerating industrial development in the state by providing financial assistance to small and medium scale industries. On Industrial Training Institute has been set up at Rangpo which imparts training to local youth.

The Sikkim Mining Corporation, Rangpo, set up in 1960, produces copper, lead and zinc. Recently, the Geological Survey of India and the Corporation had jointly located high grade deposits of gold, silver, copper and zinc in combined form. The deposits are estimated to be 20 lakh tonnes. The copper mine of Dikchu is under exploration.

The Government Institute of Cottage Industries, set up in 1957 at Gangtok, encourages local handicrafts. Wool weaving and carpet weaving are among important traditional industries. Important industrial ventures include the fruit preservation factory at Singtam, the distillery near Rangpo and a tannery at Majitar, Sikkim Jewels and Sikkim Electronics at Gangtok and a wood working centre at Bordang. A watch assembly unit in Gangtok is another industrial venture started in collaboration with HMT.

The Government institute of cotton industries encourages local handicraft. A number of small scale industries have been set up producing briquets, matches, washing soap, aluminium works, etc.

IRRIGATION AND POWER

Sikkim has tremendous water-power potential. There are four hydel power stations at Mangan, Rimbi, Rohtak and Sang Khola. The prestigious Lower Lagyap hydel project a centrally-sponsored scheme, was commissioned last year.

GOVERNMENT

Sikkim became a full fledged state of the Indian Union with effect from 26 April 1975. On 1 March 1975, it had become an associate state. The Legislative Assembly adopted a resolution on 10 April 1975 abolishing the institution of Chogyal and seeking for the territory full statehood in the Indian Union.

This resolution was endorsed by the people of Sikkim by an overwhelming majority in a special poll held on 14 April 1975.

The Constitution (Thirty-sixth Amendment) Act, 1975, was passed by Parliament on 26 April 1975 for giving effect to the wishes of the people of Sikkim to become fully integrated with the Indian Union as a constituent state.

Governor : Homi J. H. Talyarkhan.

Council of Ministers¹

Chief Minister : Nar Bahadur Bhandari

Ministers : Sherab Palden, Samten Bhutia, Athup Lepcha, Sanchaman Limboo, Tulsi Ram Sharma, Garjaman Gurung and Lachen Rimpoche.

¹ As on 13 February 1981

**Legislative
Assembly¹**

Speaker : Sonam Tsering
Dy. Speaker : L. B. Basnett

High Court¹

Chief Justice : Manmohan Singh Gujral
Chief Secretary : M. P. Pradhan

**AREA, POPU-
LATION AND
HEADQUARTERS
OF DISTRICTS**

<i>District</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. East	85,621	Gangtok
2. North	13,014	Mangan
3. South	52,432	Namchi
4. West	58,785	Gyalshing

TAMIL NADU

Area : 1,30,069 sq km
Capital : Madras

Population : 4,11,99,168
Principal language : Tamil

AGRICULTURE

The total cultivated area was about 76.84 lakh hectares in 1978-79, of which the irrigated area was about 38.19 lakh hectares (49.7 per cent). The main food crops grown in the state are rice, maize, jowar, bajra, ragi and pulses. Important commercial crops are sugarcane, oilseeds, cotton, chillies, coffee, tea and rubber. The estimated production of foodgrains during 1978-79 was 75.98 lakh tonnes and that of sugarcane (in terms of gur) and oilseeds 18.61 and 11.79 lakh tonnes respectively.

Forests cover an area of 21,73,726 hectares. The major forest products are timber, sandalwood, pulpwood and fuel wood, while the minor forest products are bamboo, eucalyptus, rubber, tea (green leaves), cashew, honey, ivory and wattle bark etc.

INDUSTRY

Limestone, magnesite, mica, quartz, felspar, salt, bauxite, lignite and gypsum are some of the minerals found in the state.

The major industries are cotton textiles, chemical fertilizers, paper and paper products, printing and allied industries such as diesel engines, automobiles and parts, cement, sugar, iron and steel and railway wagons and coaches.

A number of public sector undertakings are located in Tamil Nadu. Important among them are the Neyveli Lignite Complex, the Integral Coach Factory, the High Pressure Boiler Plant, the Hindustan Photo Films Factory, the Surgical Instruments Factory, the Hindustan Teleprinters, the Madras Refineries, the Madras Fertilizers as also some defence units including the Heavy Vehicles Factory.

The state is an important exporter of tanned hides and skins, leather goods, cotton piecegoods and yarn, tea, coffee, spices, engineering goods and tobacco.

**IRRIGATION
AND POWER**

Important irrigation schemes implemented since Independence are the Bhavani, the Amaravati, the Vaigai, the Parambikulam-Allyar the Krishnagiri, the Sattanur, the Pullambadi-kattalai high level canal, the Gomukhi Nadhi, Chittor Pattannamkal and the Ponnaniar schemes.

There are 18 hydro-electric stations and 3 thermal stations in the state. The total installed capacity of power, hydel and thermal, was 2,119 mw as on 31 March 1980. Construction of an atomic power

¹ As on 13 February 1981

station at Kalpakkam in Chengelpattu district is in progress. Tamil Nadu has 63,428 electrified towns, villages and hamlets including all the 25,526 harijan colonies and 8,87,181 energised pumpsets as on 31 March 1980.

GOVERNMENT *Governor* : Sadiq Ali

Council of Ministers¹ *Chief Minister* : M. G. Ramachandran.
Cabinet Ministers : V. R. Nedunchezian, S. Ramachandran, K. A. Krishnasamy, S. D. Somosundaram, R. M. Veerappan, C. Aranganayagam, K. Kalimuthu, C. Ponnaiyan, P. Kulandaivelu, S. Raghavanandham, Dr H. V. Hande, K. Raja Mohammed, S. Muthusamy, S. Thirunavukkarasu, S. N. Rajendran, M. Vijayasarithi and Gomathi Srinivasan.

Legislative Assembly¹ *Speaker* : K. Rajaram
Deputy Speaker : P. H. Pandian

Legislative Council¹ *Chairman* : Dr M. P. Sivagnanam
Deputy Chairman : Pulavar Pulamai Pithan

High Court¹ *Chief Justice* : Dr. M. M. Ismail
Judges : P. K. Gokulakrishnan, G. Ramanujam, V. Ramawami, S. Natarajan, V. Sethuraman, S. Ratnavel Pandian, S. Mohan, S. Suryamurthy, V. Balasubramanyan, S. Padmanabhan, M. A. Sathar Sayeed, T. Sathiadev, S. Nainar Sundaram, G. Maheswaram, P. Venugopal, S. Swamikhannu, V. Ratnam, K. Sengottuvelan and K. Shanmukam.

Public Service Commission¹ *Chairman* : S. P. Mahadevan
Members : S. Srinivasan, S. M. Sulaiman, M. Thirumalaisamy, M. Periasamy, Dr (Smt) Ambika Shanmugam and C. G. Thirumal.

Chief Secretary : V. Karthikeyan

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Chingelpattu	7,920	29,07,599	Kancheepuram
2. Coimbatore	75,038	25,76,162	Coimbatore
3. Dharmapuri	9,643	16,77,775	Dharmapuri
4. Kanniyakumari	1,684	12,22,549	Nagercoil
5 Madras	128	24,69,449	Madras
6. Madurai	12,629	39,38,197	Madurai
7. Nilgiris	2,549	4,94,015	Udhagamandalam
8. North Arcot	12,265	37,55,797	Vellore
9. Ramanathapuram	12,578	28,60,207	Madurai
10. Salem	8,643	29,92,616	Salem
11. South Arcot	10,898	36,17,723	Cuddalore
12. Periyar ²	8,169.2	17,97,016	Erode
13. Pudukkottai	4,649.9	9,47,351	Pudukkottai
14. Tiruchirapalli	11,114.3	31,92,134	Tiruchirapalli
15. Thanjavur	8,261.8	35,50,063	Thanjavur
16. Tirunelveli	11,433	32,00,515	Tirunelveli

¹ As on 4 February 1981

² Periyar district was formed on 17 October 1979

TRIPURA

Area : 10477 sq km¹
Capital : Agartala

Population : 15,56,342
Principal languages : Bengali,
 Tripuri and Manipuri

AGRICULTURE About 60 per cent of the area is under forests. Total sown area in the state is 245.9 thousand hectares and total gross cropped area is 392.3 thousand hectares. The net irrigated area is only 11.9 thousand hectares, i.e., about 4.8 per cent of net sown area. Rice, jute, mesta, potatoes, oilseeds, wheat, pulses sugarcane and cotton are the main crops.

INDUSTRY Tea is the major industry in Tripura. Tea plantations cover an area of about 5,600 hectares at the end of 1979-80. The annual production of processed tea was about 46 lakh kg. Important cottage industries are handloom, handicrafts and khadi. There are 89 weavers societies and 88 handicraft and carpentary societies.

Some major industries are proposed to be set up in the state. They include a paper mill and a jute mill. Establishment of the jute rail has made substantial progress. The number of private sector industries under small scale industry scheme are 1,221 and those of public sector industries are 23.

IRRIGATION AND POWER Between 1978 and 1980, 125 river-lift irrigation schemes were taken up; 200 shallow tube-wells were sunk; 15 deep tube-wells were installed in different parts of the state. One medium irrigation project over river Gumati was taken up in December 1980. During this period, irrigation potential has been raised from 3,875 hectares to 9,125 hectares.

During 1979-80, the installed power capacity in the state stood at 16 mw and the electricity generated was 39.30 million unit. A total of 766 villages were electrified between 1978 and 1980 and the number of powersets energised was 248 as on 31 March 1980.

IMPORTANT TOURIST CENTRES Tourist centres in the state are Neer Mahal, Sepahijala, Matabari, Dumburlake, Kamala Sagar and Phatik Roy.

The state Budget for 1981-82 is Rs 12,117.11 lakhs.

GOVERNMENT *Governor* : L. P. Singh

Council of Ministers^a *Chief Minister* : Nripen Chakraborty
Ministers : Dasarath Deb, Biren Dutta, Anil Sarkar, Dinesh Deb Barma, Baidyanath Majumdar, Araber Rahman, Jogesh Chakraborty, Brajagopal Roy, Vivekananda Bhaumik and Abhiram Deb Barma.

Legislative Assembly^a *Speaker* : Sudhanya Deb Barma
Deputy Speaker : Jyotirmoy Das

High Court¹ The jurisdiction of Gauhati High Court extends over Tripura. A branch of Gauhati High Court is functioning at Agartala.

¹ As reorganised on 21 January 1972 according to North Eastern Areas (Re-organisation) Act, 1971

^aAs on 22 June 1981

Public Service
Commission¹

Chairman : S. C. Deb

Chief Secretary : S. R. Sankaran

AREA, POPU-
LATION AND
HEADQUARTERS
OF DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. North Tripura	3,541	4,05,009	Kailashahar
2. South Tripura	3,577	3,99,728	Udaipur
3. West Tripura	3,359	7,51,605	Agartala

UTTAR PRADESH

Area : 2,94,413 sq km

Population : 8,83,41,144

Capital : Lucknow

Principal language : Hindi

AGRICULTURE

The principal food crops are wheat, rice, gram, barley, maize and bajra. Cotton, linseed, groundnut, sugarcane, tea, sesamum, rape seed, mustard and tobacco are the important cash crops. Jute is also cultivated in some areas. It is the main opium growing state in India. The state is likely to achieve its target of 232 lakh tonnes of foodgrains production this year compared to 219.95 lakh tonnes in 1978-79 which was a record.

Forests cover 17.42 per cent of the area of the state.

INDUSTRY

Uttar Pradesh is one of the principal sugar producing states. While the handloom industry is the largest cottage industry, cotton and wool-len textiles, leather and footwear, distilleries and breweries, paper and chemicals, agricultural implements and glass and glass products are some of the other flourishing industries.

A number of big public sector undertakings have been set up in the state. These are : the Bharat Heavy Electricals at Hardwar, the Indian Drugs and Pharmaceuticals at Rishikesh, the Diesel Locomotive Factory at Varanasi, Fertilizer Factory at Gorakhpur and Allahabad, Singrauli Coal Fields, Singrauli, Modern Bakery, Kanpur, Bharat Pumps & Compressors, Naini, Indian Telephone Industries, Naini and Rae Bareli, the Triveni Structurals at Naini, the Deep Freeze Meat Plant at Tundla, the Hindustan Aeronautics at Lucknow, Transformer Factory, Jhansi Uptron Capacitors Ltd., Lucknow, Uptron Digital System Ltd., Lucknow and two cement factories at Churk and Dalla. A new cement factory has come up at Kajrahat in Mirzapur district. There are also the Bharat Electronics Ltd., Ghaziabad; Scooters India Ltd., Lucknow and Tannery and Footwear Corporation of India Ltd., Kanpur. The Artificial Limbs Manufacturing Corporation of India Ltd., Kanpur, Oil Refinery, Mathura, Foundry Forge, Hardwar are among the central projects being set up in Uttar Pradesh. Eight spinning mills are running under state textile corporation and five new spinning mills will be set up during the Sixth Plan period.

The traditional handicrafts are silk fabrics, metal-ware, wood work, ceramics, stone work, dolls, artistic leather articles, papier mache, perfumery, bamboo products and musical instruments.

Special attention has been given to khadi and village industries programme in the state. As a result 25,417 village units have come up at the end of December 1980. At present, 69 industrial estates are functioning in the state and seven more will be ready for allotment this year.

¹As on 22 June 1981

**IRRIGATION
AND POWER**

The state has some of the oldest canal systems in the country among which are the eastern Yamuna canal, the upper and lower Ganga canal, Agra canal, Betwa canal, Sarda canal, Dhassan canal and Ken canal. Important irrigation projects implemented since 1947 are Matatilla Dam, Ramganga, western Gandak canal, Sarda Sahayak, Rihand Dam, Obra hydel and thermal power houses, besides a number of small and medium irrigation projects. Yamuna and Tehri hydel projects are in progress.

Among the major irrigation projects under construction are Tehri Dam, Lakhwan Vyas Dam, Sarda Sahayak, Eastern Ganga Canal, Parallel Lower Ganga Canal, Narainpur Pump canal and Deohati Pump canal. The Rs 314 crore Sarda Sahayak Project, one of the largest in the country with a total irrigation potential of 15.89 lakh hectares is nearing completion. Till March 1980, a potential of 82.86 lakh hectares has been created through all major, medium and minor irrigation works in the state.

The total installed capacity of power including both hydel and thermal, was 3,253 mw by January 1981. An atomic power station is being set up at Narora in Bulandshahar district. Work on three more thermal power schemes—Poricha (Jhansi)—Anpara (Mirzapur) and Tanda (Faizabad) is in hand.

The state had only 110 electrified villages in 1951; the number increased to 40,473 in January 1981. The number of electrified harijan bastis increased from 12,362 by March 1979 to 15,168 in January 1981. For irrigation, 3,70,645 private tube-wells and 18,148 state tube-wells had been energised upto January 1981 compared to only 3,000 tube-wells in 1951.

**IMPORTANT
TOURIST
CENTRES**

Important tourist centres are Agra, Mathura, Varanasi, Sarnath, Haridwar, Allahabad and Lucknow etc. Hill stations like Mussoorie, Nainital, Chakrata, Lansdowne, Almora, Ranikhet, Uttarkashi besides the world renowned Valley of Flowers. Religious places like Kedar-nath and Badrinath are there.

Budget receipts for 1981-82 are estimated at Rs 2,555.45 crores and expenditure totalling Rs 2,762.98 crores.

GOVERNMENT

Governor : C. P. N. Singh.

**Council of
Ministers¹**

Chief Minister : Vishwanath Pratap Singh

Cabinet Ministers : Brahm Dutt, Bir Bahadur Singh, Lokpati Tripathi, Balram Singh Yadav, Jagdish Prasad, Ram Singh Khanna, Ammar Rizir, Vidya Bhushan, Jagdish Chandra Dixit, Chhedalal Choudhari, Smt. Swaroop Kumari Bakshi, Bhanu Pratap Singh, Vasu Deo Singh, Baijnath Kureel, Nyaz Hasan and Srikrishna Goel.

Ministers of State : Chandra Mohan Singh Negi, Ram Narayan Pathak, Hari Singh Balmiki, Mohammed Amin Ansari, Ajit Singh, Kashi Nath Misra, Sachidanand Bajpai, Rajendra Tripathi, Shivnath Singh Kushwaha, Ram Ratan Singh, Dayal Krishna, Gulah Singh, Shivraj Singh, Govardhan Tewari, Krishna Prakash Tewari, Nirbhaya Narain Singh and Gopal Ram Das.

Deputy Ministers : Javed Ali Khan, Jafar Ali Naqir, Sarju Prasad Saroj, Sita Ram Nishad, Sunil Shastri, Jai Ram Gautam, Nirmal Khatri and Surendra Singh.

¹As on 11 March 1981

Legislative
Council¹

Chairman : Virendra Bahadur Singh Chandel
Deputy Chairman : Shiv Prasad Gupta

Legislative
Assembly¹

Speaker : Sripat Misra
Deputy Speaker : Yadavendra Singh

High Court¹

Chief Justice : Satish Chandra

Judges : Yashoda Nandan, Ram Briksha Misra, Mahesh Narain Shukla, Hridaya Nath Seth, Mohd. Hamid Hussain, Jagmohan Lal Sinha, Kamal Narain Singh, Chandra Shekhar Prasad Singh, Gopi Nath, Narain Dutt Ojha, Kamta Nath Seth, Pratap Narain Bakshi, Hridaya Nath Kapoor, Mahesh Narain Mehrotra, Abhitabh Banerjee, Brahm Nath Katju, Krishna Chandra Agarwal, J. P. Chaturvedi, M. P. Saxena, Barmeshwar Nath Verma, Brij Narain Sapru, Ram Manohar Sahai, Pratap Narain Harkauli, Devki Nandan Agarwal, Prem Shankar Gupta, Raja Ram Rastogi, Keshav Prasad Singh, Prem Narain Goel, Sudershan Dayal Agarwal, Madan Mohan Gupta, Syed Jarar Haidar, Vidya Nath Misra and Vijay Kumar Mehrotra.

Additional Judges : Murli Dhar, Ram Surat Singh, Amrendra Nath Verma, Narendra Nath Mittal, Vinayak Krishna Khanna and Krishna Mohan Dayal.

Public Service
Commission¹

Chairman : Dilip Kumar Bhattacharya
Chief Secretary : Tribhuvan Prasad

AREA, POPU-
LATION AND
HEADQUARTERS
OF DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Agra	4,816	23,08,638	Agra
2. Aligarh	5,024	21,11,829	Aligarh
3. Allahabad	7,255	29,37,278	Allahabad
4. Almora	7,023	7,50,038	Almora
5. Azamgarh	5,744	28,57,484	Azamgarh
6. Bahraich	6,871	17,26,972	Bahraich
7. Ballia	3,183	15,88,935	Ballia
8. Banda	7,645	11,82,215	Banda
9. Bara Banki	4,422	16,35,593	Bara Banki
10. Bareilly	4,125	17,79,867	Bareilly
11. Basti	7,309	2,98,409	Basti
12. Bijnor	4,852	14,90,185	Bijnor
13. Budaun	5,158	16,45,967	Budaun
14. Bulandshahr	4,895	20,73,343	Bulandshahr
15. Chamoli	9,125	2,92,571	Chamoli
16. Dehra Dun	3,088	5,77,306	Dehra Dun
17. Deoria	5,400	28,12,350	Deoria
18. Etah	4,449	15,70,925	Etah
19. Etawah	4,327	14,47,702	Etawah

¹ As on 11 March 1981

<i>District</i>	<i>Area (sqkm)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
20. Faizabad	4,427	19,27,281	Faizabad
21. Ferrukhabad	4,349	15,56,930	Fatehgarh
22. Fatehpur	4,168	12,78,254	Fatehpur
23. Garhwal	5,440	5,53,028	Pauri
24. Ghazipur	3,381	15,31,654	Ghazipur
25. Gonda	7,331	23,02,029	Gonda
26. Gorakhpur	6,316	30,38,177	Gorakhpur
27. Hamirpur	7,192	9,88,215	Hamirpur
28. Hardoi	6,012	18,49,519	Hardoi
29. Jalaun	4,549	8,13,490	Orai
30. Jaunpur	4,040	20,05,434	Jaunpur
31. Jhansi	5,027	9,60,000	Jhansi
32. Lalitpur	5,042	4,71,000	Lalitpur
33. Kanpur	6,121	29,96,232	Kanpur
34. Kheri	7,691	14,86,590	Lakhimpur
35. Lucknow	2,528	16,17,846	Lucknow
36. Mainpuri	4,254	14,45,534	Mainpuri
37. Mathura	3,797	12,90,307	Mathura
38. Meerut	5,944	33,66,953	Meerut
39. Ghaziabad	—	—	Ghaziabad
40. Mirzapur	11,301	15,41,088	Mirzapur
41. Moradabad	5,946	24,28,971	Moradabad
42. Muzaffarnagar	4,245	18,02,289	Muzaffarnagar
43. Naini Tal	6,792	7,90,080	Naini Tal
44. Pilibhit	3,504	7,52,114	Pilibhit
45. Pithoragarh	7,217	3,13,747	Pithoragarh
46. Pratapgarh	3,730	14,22,707	Bela
47. Rae Bareli	4,603	15,10,812	Rae Bareli
48. Rampur	2,372	9,01,209	Rampur
49. Saharanpur	5,526	20,54,834	Saharanpur
50. Shahjahanpur	4,581	12,86,104	Shahjahanpur
51. Sitapur	5,738	18,84,400	Sitapur
52. Sultanpur	4,424	16,42,928	Sultanpur
53. Tehri-Garhwal	4,421	3,97,385	Narendra Naga
54. Unnao	4,586	14,84,393	Unnao
55. Uttarkashi	8,016	1,47,805	Uttarkashi
56. Varanasi	5,091	28,52,459	Varanasi

WEST BENGAL

Area : 87,853 sq km
Capital : Calcutta

Population : 4,43,12,011
Principal language : Bengali

AGRICULTURE

About 57.5 per cent of the total population of West Bengal is engaged in agricultural pursuits. Gross irrigated area forms about 30 per cent of the cultivated area which is about 63 per cent of the total area. The state occupies a leading position among the rice producing states in the country. The area under paddy is nearly 70 per cent of the total cropped area. Other important food crops are wheat, pulses and oil-seeds, Barley, maize and other cereal crops are still insignificant food crops. Among the cash crops, the most important are jute, vegetables, tea and betel leaf, minor ones being tobacco and sugarcane. During 1978-79, 12.06 lakh tonnes of wheat was produced. The production of jute was about 40 lakh bales during 1978-79. The state earns considerable foreign exchange through export of jute and tea.

Temperate fruits have been successfully grown in Darjeeling hills. This is expected to help the economic development of this region.

Forests cover about 13.4 per cent of the area of the state. Major forest products are timber, honey, firewood, charcoal, *katha* and bamboo.

INDUSTRY

Coal and china clay are the two most important minerals found in West Bengal. Other minerals are dolomite, rock phosphate, fire-clay, limestone, copper, iron, silica, quartz, felspar, manganese, sandstone and moulding sand.

West Bengal is a major industrial state in the country. There is one steel plant and one alloy plant at Durgapur and another steel plant at Burnpur. The other major industries are jute, tea, cotton textiles, silk, automobile, bicycle, light engineering, paper, pharmaceuticals, chemical, aluminium, sugar, timber processing, ceramic and glass, leather and footwear, bone-meal and dairying. A number of central public sector undertakings including locomotive, cable, fertilizer, ship-building and ordnance are also located in the state. New industrial areas are being developed at Asansol, Durgapur, Haldia, Kalyani, Kharagpur, Santaldih, Siliguri and Farakka. New industrial ventures include cement, scooter, electricals, mini-steel plants, chemicals, etc.

IRRIGATION AND POWER

Important multi-purpose irrigation and power schemes implemented since 1947 are the Damodar Valley Project and the Mayurakshi Project. The other major irrigation projects are the Kangsabati and the Teesta Barrage project.

Of the major power projects, the Bandel thermal power station has a capacity of 320 mw and the Santaldih thermal station has a capacity of 360 mw. Durgapur Project Ltd. has 285 mw capacity. The Calcutta Electric Supply Corporation has four stations with an installed capacity of 328 mw. Installed capacity of the West Bengal State Electricity Board is 852 mw. In addition, the Damodar Valley Corporation also supplies power (390 mw) to West Bengal from its generating stations. The total installed capacity exceeds 1,300 mw.

West Bengal had only 386 electrified villages in 1951; the number increased to 12,863 by 31 March 1980. More than 24,068 irrigation pumps have been energised.

GOVERNMENT

Governor : Tribhuban Narain Singh

Council of Ministers¹**Chief Minister :** Jyoti Basu**Cabinet Ministers :** Krishnapada Ghosh, Ashok Mitra, Kanailal Bhattacharjee, Jatin Chakraborty, Benoy Chowdhury, Amritender Mukherjee, Md. Amin, Hasim Abdul Halim, Partha Dey, Prasanta Sur, Chittabrata Majumder, Radhikaranjan Banerjee, Parimal Mitra, Buddhadev Bhattacharjee, Provas Chandra Roy, Kamal Guha, Bhakti Bhusan Mondal, Sambhu Charan Ghosh, Nani Bhattacharyya, Debabrata Banerjee, Sudhin Kumar and Bhabani Mukherjee.**Ministers of State :** Sibendranarain Chowdhury, Md. Abdul Bari, Smt Nirupama Chatterjee, Sambhunath Mandi, Ram Chatterjee and Kanti Biswas.**Legislative Assembly¹****Speaker :** Saiyad Abul Mansur Habibullah**Dy. Speaker :** Kalimuddin Shams**High Court¹****Chief Justice :** Amrendra Nath Sen**Judges :** Sambhu Chandra Ghose, Ramendra Mohan Dutta, Samrendra Chandra Deb, Sabyasachi Mukharji, Tarun Kumar Basu, Pradyot Kumar Banerjee, Anil Kumar Sen, Chittatosh Mookerjee, Murari Mohan Dutt, Purna Chandra Borooah, Salil K. Roy Chowdhury, Arun Kumar Janah, Nirmal Chandra Mukherji, Ajit Kumar Sarkar, Dipak Kumar Sen, Rabindra Nath Pyne, Bankim Chandra Ray, Manashnath Roy, Bimal Chandra Basak, Ramkrishna Sharma, Ganendra Narayan Roy, Chandan Kumar Banerji, Monoj Kumar Mukherjee, Dhires Chandra Chakravorti, Smt Padma Khastgir, Smt. Monjula Bose, Bimalendra Nath Maitra, Bhabes Chandra Chakrabarti, Smt Jyotirmoyee Nag, Smt Pratibha Bonnerjea and Sudhindra Mohan Guha.**Public Service Commission¹****Chairman :** Rabidas Baul**Members :** K. Paramanik, M. Hasan, N. C. Basu Roy Chowdhuri, S. S. Chatterjee, G. N. Das and S. Boral.**Chief Secretary :** A. K. Sen**AREA, POPULATION AND HEADQUARTERS OF DISTRICTS**

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Bankura	6,881	20,31,039	Bankura
2. Birbhum	4,550	17,75,909	Suri
3. Burdwan	7,028	39,16,174	Burdwan
4. Calcutta	104	31,48,746	Calcutta
5. Cooch Behar	3,386	14,14,183	Cooch Behar
6. Darjeeling	3,075	7,81,777	Darjeeling
7. Hooghly	3,145	28,72,116	Chinsurah
8. Howrah	1,474	24,17,286	Howrah
9. Jalpaiguri	6,245	17,50,159	Jalpaiguri
10. Malda	3,713	16,12,657	English Bazar
11. Midnapore	13,724	55,09,247	Midnapore
12. Murshidabad	5,341	29,40,204	B. harampur
13. Nadia	3,296	22,30,270	Krishnanagar
14. Purulia	6,259	16,02,875	Purulia
15. Twenty Four Parganas	13,796	84,49,482	Alipur
16. West Dinajpur	5,206	18,59,887	Balurghat

¹As on 5 May 1980.

ANDAMAN AND NICOBAR ISLANDS

Area : 8,293 sq km
Capital : Port Blair

Population : 1,15,133

AGRICULTURE The principal crops are rice, coconut and arecanut. Other crops are sugarcane, pulses, fruit and vegetables. Rubber and palm oil cultivation has also been started.

INDUSTRY There are about 150 medium and small scale (including a few large-sized) industrial units functioning in the territory. The large scale units are located one each at Bambooflat, Bakultala, Long Island, Haddo and Chatham. The products comprise sawn timber, commercial plywood, match splints, and veneers. Besides these, the small scale and handicraft units are engaged in shell crafts, furniture making bakery products, coir products, rice milling, wheat grinding, oil seeds crushing etc. Nine Industrial Training Institutes under the Directorate of Industries impart training to local entrepreneurs, artisans and tribals in trades like cane and bamboo crafts, wood crafts, shell crafts and tailoring. Most of these centres are training-cum-production centres. The District Industries Centre has also been recently set up at Port Blair to provide all support and facilities to entrepreneurs at one place.

IRRIGATION AND POWER Electric supply in Port Blair was started in 1951. The installed capacity in 1979-80 was 6,708 kw. Apart from Port Blair, electricity is available for the public at the following places :
 Wimberlygunj; Bambooflat; Mayabunder; Digliour; Rangat; Car Nicobar; Nancowrie; Biglapathy; Campbell Bay; Neil Island; Havelock; Baratang; East Bay Katchal; Kadamtalla and little Andaman.
 A total of 103 villages (out of 390 villages) have been electrified till November 1980.

IMPORTANT TOURIST CENTRES Among important tourist centres are Cellular Jail, Anthropological museum, Zoological gardens, Ross island, Shahid Bedi and Mount Harriet etc.

GOVERNMENT *Chief Commissioner* : S. L. Sharma

High Court¹ The jurisdiction of Calcutta High Court extends over Andaman and Nicobar Islands. For list of judges see under West Bengal.

Public Service Commission¹ Recruitment is made through the Union Public Service Commission.

Chief Secretary : B. K. Singh

AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Andaman	6,340	93,468	Port Blair
2. Nicobar	1,953	21,665	Car Nicobar

¹As on 10 February 1981

ARUNACHAL PRADESH

Area : 83,578 sq km¹
Capital : Itanagar

Population : 4,67,511

AGRICULTURE	Nearly 46 per cent of the population of Arunachal Pradesh is engaged in agriculture. Irrigated area forms 17 per cent of the total cultivated area of about 14,000 hectares. The traditional method of agriculture is <i>jhumming</i>, a kind of shifting cultivation. The forests are cleared and crops are raised for one to three years, depending on the fertility of the soil. Thereafter, the cultivators move on elsewhere. However, sedentary cultivation is followed in the valleys and terraces, the methods being called 'wet rice cultivation' and 'terrace rice cultivation' respectively. Main crops are rice, maize, millets, wheat and mustard. Forest cover 61,000 sq km of the area. The horticultural potential in Arunachal Pradesh is noted very high. Banana, citrus and pineapple below 3,000 feet, peach, plum, pears, and spricut upto 5,000 and apple, plum, cherries, walnuts, almonds and hazelnuts etc. above 5,000 feet are grown in three out of five districts of Arunachal Pradesh.
INDUSTRY	Principal industries are forest-based. Medium and small industries established include saw mills, plywood and veneering mills, rice mills, fruit preservation units, oil expellers besides handloom and handicrafts industries. The government is providing training facilities in various trades under cottages industries as well as technical education through the Government Craft Training Centres and Industrial Training Institutes.
IRRIGATION AND POWER	A hydel project with an installed capacity of 750 kw was commissioned at Rahung in 1972. Two more hydel projects at Pasighat and Basar with installed capacities of 200 kw and 100 mw respectively were completed in November 1973. During 1976 and 1977, Along (400 kw), Tezu (500 kw) Tirat-jo-micro-hydel project (750 kw) and Tawang (1,500 kw), were commissioned. Ziro (2,000 kw), Tezu (500 kw), Dirang (1,500 kw) and Singh hydro-electric projects are almost ready. The total installed capacity in March 1975 was 3.4 mw. Arunachal Pradesh had only seven electrified villages in 1961 and the number increased to 61 by 31 March 1975.
GOVERNMENT	<i>Lt. Governor</i> : R. N. Haldipur
Council of Ministers ²	<i>Chief Minister</i> : Gegong Apang <i>Ministers</i> : Khapriso Krong, T. Ngemu, Tadar Tang, T. Dulom and T. Tashi. <i>Deputy Ministers</i> : Kameng Dolo and Haijen Ponglaham.
Legislative Assembly ³	<i>Speaker</i> : T. L. Rajkumar <i>Deputy Speaker</i> : Pasang Wangchuk Sona.
High Court ⁴	The jurisdiction of Gauhati High Court extends over Arunachal Pradesh. For list of Judges, see under Assam.
Public Service	Recruitment is made through special selection board constituted by the Union Ministry of Home Affairs in respect of Class I posts. <i>Chief Secretary</i> : I. P. Gupta.

¹As reorganised on 21 January 1972, according to North Eastern Areas (Reorganisation) Act, 1971

²As on 13 May 1980.

AREA, POPU-
LATION AND
HEADQUARTERS
DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Kameng	13,724	86,001	Bomdila
2. Lohit	24,427	62,865	Tezj
3. Siang	23,723	1,08,247	Along
4. Subansiri	14,797	1,12,928	Ziro
5. Tirap	6,907	97,470	Khonsa

CHANDIGARH

Area : 114 sq km
Capital : Chandigarh

Population : 2,57,251

AGRICULTURE

Of the 7,933 acres of cultivable land, 6,352 acres is irrigated. Wheat, maize and paddy are the major crops of the area. The production of foodgrains in 1978-81 was 14,820 tonnes. Forests cover 27 per cent of the area.

INDUSTRY

There are 13 industries the large and medium sector out of which two are public undertakings. There are 1,105 units registered under small scale industries sector and 603 units in the small industries sector. Among major industries are wool top and yarn, hosiery needles, electric meters, antibiotics and medicines, bicycle rims, bakery chains and free wheels, card-board and steel furniture. The cottage and small-scale industries include besides others, iron and steel re-rolling, steel fabrication, sanitary fittings, door fittings, electronic components, cutlery, machine screws hardware, electrical appliances, plastic shoes, cotton ginning, machine parts, utensils, paints and varnishes, tiles, conduit pipes and rivets, insecticides and pesticides, auto cables and domestic cables, thermometers, wire drawing and wire products, soap and chemicals, cement pipes, tape recorders, tractor parts, calculators, record players, handloom weaving, shoe making knitting machines, oil crushing, spics, exercise books, card-board boxes, nylon niwar, textile weaving and detergent powders. An electronics industry complex is being developed. The total annual production of large and small scale industries is about Rs 64 crores.

IRRIGATION
AND POWER

The union territory gets 3.5 per cent share of the total power generation from Bhakra complex. A standby arrangement to produce electricity to the extent of 2 mw is also available in case of major shut downs.

All the 22 villages have been electrified. The land is irrigated through 171 diesel engine and 534 power based tube-wells.

Tourist
Centre

Important tourist interest place is Rose garden. Other garden and leisure valley include Shanti Kunj, Moonlight garden, terrace garden and garden of unusual plants etc.

GOVERNMENT

Chief Commissioner : B. S. Sarao

High Court¹ The jurisdiction of the High Court of Punjab and Haryana extends over Chandigarh. For list of judges, see under Haryana.

Public Service¹
Commission Recruitment is made through the Union Public Service Commission.

DADRA AND NAGAR HAVELI

Area : 491 sq km
Capital : Silvassa

Population : 74,170

AGRICULTURE Agriculture is the main occupation of *Adivasis* who comprise 88 per cent of the total population. Paddy and ragi are the major food crops, while wheat is also grown in some areas. About 20,000 hectares of land is under cultivation. Agriculture is dependent on rainfall.

More than 40 small poultry units have been started by individual *adivasis* apart from three poultry cooperative societies. Seven gobar gas plants have also been set up. Apart from a bull recovering farm, a demonstration poultry farm was started in 1974-75. Veterinary dispensary, five veterinary aid centres, poultry farm, piggery farm, fodder demonstration farm, feed mixing unit, artificial insemination centre and buffalo breeding-cum-demonstration farm have been started by the administration of the territory.

Forests occupy 41.5 per cent of the area. Main forest products are khair, sivan, teak, sadad and mahuda.

INDUSTRY There are no major industries. A beginning has, however, been made in this direction by establishing an industrial estate at Piparia and another at Masat near Silvassa. There are 74 industrial units in the union territory (including three medium scale), providing employment to about 1,800 workers. The products manufactured includes automobile parts, spectacle frames, cotton and art silk fabrics, nylon filaments, foam products, detergent powder, soap, biscuits, chemical engineering goods, candles, fruit juice, wrist watches etc. The total production per year is about Rs 16 crores.

IRRIGATION AND POWER There is no major or medium irrigation scheme. However, the union territory is participating with the Government of Gujarat and Goa, Daman and Diu in the Daman-ganga reservoir project. Minor irrigation activities include construction of 20 lift irrigation schemes, 14 check dams and 2 tube wells. The total area under irrigation is 395 hectares.

Power is purchased from Gujarat. Out of 72 villages, 52 have been electrified. So far 190 agricultural and 37 drinking water pump sets have been energised. A 66 KVA sub-station has started functioning at Silvassa.

GOVERNMENT Administrator : Col. Pratap Singh Gill

High Court The jurisdiction of Bombay High Court extends over this union territory. For list of judges, see under Maharashtra.

Public Service¹
Commission Recruitment for higher posts is made through the Union Public Service Commission.

¹As on 5 May 1981

DELHI

Area : 1,485 sq km
Capital : Delhi

Population : 40,65,678

AGRICULTURE Wheat, gram, rice, maize, bajra and jowar are the principal food crops. Small quantities of cash crops, such as sugarcane, mustard, tobacco and chillies are also grown. Mixed cropping and mixed farming including animal husbandry, poultry keeping and vegetable production are becoming popular. The total cropped area in 1979-80 was 83,048 hectares with an overall foodgrains production of 1.25 lakh tonnes.

INDUSTRY There were about 42,000 industrial units employing approximately 3,50,000 persons in 1978-79. The total investment in these units was estimated at Rs 650 crore and the value of total production was estimated at Rs 1,425 crore. Prominent industries are steel castings, drugs and chemicals, paints and varnishes, television sets, radios, transistors, electrical appliances, scientific instruments, ready-made garments and vegetable oils. Other industries include leather and rubber goods, pottery, textiles and tanning. The well-known cottage industries of Delhi are ivory works, gold and silver embroidery, jewellery, brass and copperware.

IRRIGATION AND POWER There is no major irrigation project in Delhi. Only minor works and tube-wells help in irrigation. Out of 60,832 hectares of net irrigated area in 1978-79, tube-wells accounted for 31,268 hectares whereas only 16,314 hectares was being irrigated through canals. Recently lift irrigation projects have been started to divert treated water from sewage treatment plants for agricultural fields. The Delhi Electric Supply Undertaking, responsible for generation and distribution, had a derated capacity of 2,58,000 kw during 1978-79, Delhi has electrified all the villages as against only 24 in 1957.

GOVERNMENT¹ *Lt. Governor : S. L. Khurana.*
 Metropolitan Council was dissolved on 21 March 1980.

High Court¹ *Chief Justice : Prakash Narain.*
Judges : S. Rangarajan, Rajinder Sachar, Dalip K. Kapur, T. P. S. Chawla, A. B. Rohatgi, R. N. Aggarwal, H. L. Anand, Yogeshwar Dayal, S. S. Chaddha, M. L. Jain, S. Ranganathan, Smt. Leila Seth, N. N. Goswamy, Sultan Singh, O. N. Vohra, S. B. Wad, J. D. Jain, Charanjit Talwar, S. N. Kumar, G. R. Luthra, D. R. Khanna, B. N. Kirpal and G. C. Jain.

Public Service¹ Commission Recruitment is made through the Union Public Service Commission.
Chief Secretary : S. D. Srivastava.

GOA, DAMAN AND DIU

Area : 3,813 sq km
Capital : Panaji

Population : 8,57,771
Principal languages : Marathi, Konkani and Gujarati

¹As on 20 April 1981.

AGRICULTURE Irrigated area forms about 10 per cent of the total cultivated area. Rice is the main important food crop. Pulses and ragi and other food crops are grown. Production of rice in 1979-80 was 95,290 tonnes. Other crops grown in small quantities include groundnut, maize, jowar, bajra and vegetables. The main cash crops are sugarcane, coconut, cashewnut, arecanut and fruits like pineapple, mango and banana. The production of sugarcane during 1979-80 was 65,565 tonnes.

Forests cover 27.6 per cent of the total area.

INDUSTRY The mineral wealth consists of iron ore, manganese, ferro-manganese, bauxite and silica sand. The mining industry contributes substantially to the economy of the territory employing over 25,000 persons. The estimated production of these minerals (in terms of metric tonnes) during 1979-80 was iron ore, 12,959.607; manganese ore 9,090; ferro-manganese or 79,033; silica 41,471; and bauxite 9,165. The export figures of iron ore during 1979-80 with the exception of black iron ore pallets and ferro manganese stood at 10 million tonnes earning nearly Rs 81.88 crores.

By the end of December 1980, the number of registered small scale units stood at 2,177, employing 16,495 with an investment of around Rs 25.20 crores. These include among others workshops, bakeries, printing presses, saw mills, tyre retreading units, fruit and fish canning, cashewnut processing, mosaic tiles, soap manufacture, furniture, type-writer ribbons, carbon paper, automobile batteries, acrylic sheets, polythene bags, sodium silicate, fishing nets, zipfasteners, stoves, footwear, spectacle frames, chemical, stainless steelwares, rice and flour mills, aluminium collapsable tubes, sports goods, readymade garments, diamond cutting tools, industrial valves and furnaces, flask guns, audio visual equipments and assembly of watches and TV sets etc.

On the export front too, the small scale industries have registered continued progress. During 1979-80, goods valued at Rs 4.96 crore were exported.

IRRIGATION AND POWER Number of irrigation schemes such as lift irrigation schemes, bandharas, tanks etc., capable of irrigating about 1,200 hectares have been taken up. The irrigable area which was 8,580 hectares upto the end of the Fourth Plan, has been increased to 13,000 hectares, of which an area of 4,850 hectares would be from government schemes.

In addition to these minor irrigation schemes, a member of major irrigation schemes, viz. Salauli Irrigation Scheme and Anjunem Irrigation Scheme on a modern line with an irrigation potential of over 16,000 hectares will be completed soon.

Out of 409 villages, 355 have already been electrified as on December 1980.

Budget for 1980-81 : Revenue Rs 50.94 crores.

GOVERNMENT *Lt. Governor* : Col. Partap Singh Gill

Council of Ministers¹

Chief Minister : Pratapsing Raoji Rane

Cabinet Ministers : Francisco C. Sardinha, Dayanand G. Narvekar, Sheikh Hassan, Harish N. P. Zantye and Joildo S. Aguiar.

Legislative Assembly¹

Speaker : Froilano Machado

Dy. Speaker : Vaikunth G. Gauns Desai

¹ As on 6 March 1981.

h Court

The Judicial Commissioners Court has been declared as a High Court for the purpose of articles 132, 133 and 134 of the Constitution.

Acting Judicial Commissioner : K. M. Mishra

A new District Court South Goa has been constituted.

Recently the Lok Sabha passed a Bill extending the Bench of the Bombay High Court to Goa.

blic Service
ommission

Recruitment is made through the UPSC

Chief Secretary : Dr J. C. Almeida

REA. POPU-
TION AND
HEADQUARTERS
DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Daman	72	38,739	Daman
2. Diu	40	23,912	Diu
3. Goa	3,701	7,95,120	Panaji

LAKSHADWEEP

Area : 32 sq km

Population : 31,810

Capital : Kavaratti

AGRICULTURE

Coconut is the only major crop with a turnover of over Rs 1.12 crores a year. The area under coconut cultivation in 1978-79 was 2,780 hectares. There are dairies at Kavaratti and Minicoy and poultry farms at Androth, Kadmath, Kalpeni, Minicoy, Kavaratti, Agatti and Kiltan.

INDUSTRY

Fishing is the main industry. The sea around the islands is highly productive. It is particularly rich in tuna and shark varieties of fish. There are 204 mechanised boats in fishery operations at the end of 1980. There is a factory for canning tuna fish at Minicoy Island. There are boat-building yards at Kavaratti and Chetlat islands.

Coir spinning and coir yarn production are the main cottage industries with an annual turnover of Rs 6 to 7 lakhs. Coir products are exchanged for foodgrains and other consumer goods through government depots, under coir monopoly scheme which is run by the administration on a no loss no profit basis for the benefit of the poorer sections and the scheduled tribes. There are four coir production-cum-demonstration centres one each in Kadmath, Amini, Kiltan, and Androth islands. There are two coir training centres, one each at Agatti and Chetlat. There are defibering plants one each in Androth and Kadmath islands. There is a hosiery unit at Kalpeni island. A handicrafts society was started in 1974 at Kavaratti island. Two handicrafts training centres are functioning—one at Kavaratti, started in 1974 and the other at Kalpeni, started in 1979.

POWER

Out of ten inhabited islands, nine had been electrified by 1973-74. The installed capacity of generator sets in Lakshadweep on 31 December 1979 was 1,578 kw.

GOVERNMENT

Administrator : P. M. Nair

¹ As on 26 March 1981

- High Court** The jurisdiction of the Kerala High Court extends over Lakshadweep. For list of judges, see under Kerala.
- Public Service Commission** Recruitment to group 'A' and 'B' posts is made through the Union Public Service Commission.

MIZORAM

Area : 21,087 sq km
Capital : Aizawl

Population : 3,32,390
Principal languages : Mizo and English

AGRICULTURE

About 90 per cent of the people of Mizoram are engaged in agricultural pursuits. Out of about 60,000 families, 50,000 families are in agriculture, of which 10,000 are in the process of permanent settlement and 40,000 are still continuing shift cultivation. At present 5 per cent of the total area is under cultivation and a little over 1.5 per cent is made permanent cultivation. Irrigated area forms seven per cent of the total cultivated area. In the hill slopes, maize and paddy are cultivated. Other crops grown are pulses, sugarcane, chillies, ginger, tobacco, vegetables, turmeric, potato, banana and pineapple. Shift cultivation is ordinarily practised though terrace rice cultivation and wet rice cultivation practices have been taken up in recent years. Production of foodgrains in 1976-77 was about 58,245 tonnes, ginger 20,360 tonnes, sugarcane 2,048 tonnes and potato 382 tonnes.

Nearly two-third of the area of the territory is covered with forests. Important forest products are timber, bamboo and agar.

INDUSTRY

There is no major industry in Mizoram. Handloom and handicrafts are the cottage industries. Rice milling, oil and flour milling, mechanised bamboo workshops, saw milling, brick making, aluminium casting and furniture workshops are some of the small industries which have been established. A survey conducted in 1973-74 has established that there is sufficient raw material for establishing a paper-pulp project.

IRRIGATION AND POWER

Schemes like the cementing for water points, construction of small reservoirs at the collection points in the streams or springs and some improvised way of bringing water as near the villages as possible are being implemented. Irrigation is difficult because of the mountainous terrain.

There are seven diesel powers stations to generate electricity mainly for domestic consumption at Aizawl, Lunglei, Lawngtlai, Champha and Hnahthial. The total power generation capacity is estimated to be about 1,876 kw.

Lt. Governor : N. P. Mathur

GOVERNMENT¹ Council of Ministers¹

Chief Minister : Brig. T. Sailo
Cabinet Ministers : Lalthmingthanga, Zairemthanga, P. B. Rosang and F. Malsawma.

¹ As on 14 May 1980.

High Court	The jurisdiction of Gauhati High Court extends over Mizoram.
Public Service Commission	Appointment of Class I and II officers is made by the Lt. Governor. <i>Chief Secretary : A. J. Kundan</i>

PONDICHERRY

<i>Area : 480 sq km</i>	<i>Population : 4,71,707</i>
<i>Capital : Pondicherry</i>	<i>Principal languages : Tamil and French</i>

AGRICULTURE	Nearly 45 per cent of population of Pondicherry is engaged in agricultural and other allied pursuits. Irrigated area forms about 89 per cent of the total cultivated area. Rice is the main food crop. Other crops grown in small quantities are jowar, bajra and ragi. Sugarcane, groundnut and cotton are the principal cash crops. Production of foodgrains in 1979-80 was 1,20,000 MT and sugarcane 1.45 lakh tonnes. Forests are practically non-existent.
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INDUSTRY	There are 1,450 small scale industries of which electrical appliances, camphor, leather goods, wooden articles, electronic items, plastics, steel furniture and bicycle parts are the main industries. Besides there are ten medium and large industries including five textile mills. The government distillery at Pondicherry, expanded in 1973, manufactures industrial alcohol, bottled arrack and denatured spirit.
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IRRIGATION AND POWER	There is no major irrigation project in Pondicherry. Some minor irrigation schemes include boring of wells. There are no power generation projects. All the 333 villages were electrified by 26 March 1972 as against only 68 in 1954. For irrigation, 7,815 pumpsets/tubewells had been energised by 31 December 1980.
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GOVERNMENT	<i>Lt. Governor : Ram Kishore Vyas</i>
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Council of Ministers ¹	<i>Chief Minister : D. Ramachandran</i> <i>Cabinet Ministers : S. Savarirajan, G. Perumalraja, Smt Renuka Appadurai, V. M. C. Sivakumar and V. Kadirvelu.</i>
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Legislative Assembly ¹	<i>Speaker : M. O. H. Farook</i> <i>Dy. Speaker : L. Joseph Mariadass</i>
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High Court	The jurisdiction of Madras High Court extends over Pondicherry. For list of Judges, see under Tamil Nadu.
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Public Service Commission	Recruitment is made through the Union Public Service Commission. <i>Chief Secretary : P. V. Jaikrishnan</i>
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AREA, POPULATION AND HEADQUARTERS OF DISTRICTS

<i>District</i>	<i>Area (sq km)</i>	<i>Population (1971 census)</i>	<i>Headquarters</i>
1. Karaikal	161	1,00,042	Karaikal
2. Mahe	9	23,134	Mahe
3. Pondicherry	290	3,40,240	Pondicherry
4. Yanam	20	8,291	Yanam

¹As on 1 April 1981.

26 IMPORTANT EVENTS 1980

January

- 1 Geological Survey of India discovers huge reserves of bauxite ore on the east coast which places India third in the world after Guinea (360 crore tonnes) and Australia (300 crore tonnes).
- 2 244 Parliamentary constituencies go to polls in the first phase
- 6 Polling in the Seventh General Election concludes.
- Congress (I) wins the only Lok Sabha seat from Dadra and Nagar Haveli.
- 7 Marxist led Left Democratic Front gets 12 Lok Sabha seats out of a total of 20 in Kerala. Eight seats go to Democratic Front Headed by Congress (I).
- Congress (U) gets absolute majority in Goa, Daman and Diu State Assembly elections.
- 8 Governor of Karnataka invites R. Gundu Rao, to explore possibility of forming a ministry in place of Devraj Urs ministry which resigned on 7 January, 1980.
- Pratapsing Raoji Rane elected leader of the Congress (I) Legislature Party unanimously of Goa, Daman and Diu.
- Commonwealth secretariat announces that Rajeshwar Dayal, former top Indian diplomat, would be the Chairman of the Commonwealth Observer Group which will monitor the Rhodesian independence elections next month.
- 9 Congress (I) wins 351 seats in the Seventh Lok Sabha, thus capturing the two-thirds majority of the 525 seats for which polling was held. Janata (S) gets 41 seats, CPI (M) 35, Janata 32, Congress (U) 13, CPI 10, others 37 and Independents 6.
- 10 Smt. Indira Gandhi unanimously elected leader of the Congress-I Parliamentary Party.
- Election Commission issues a notification, constituting the new Lok Sabha.
- President invites Smt. Indira Gandhi to form a new government.
- In Manipur State Assembly elections, Independents win 19 seats, Congress (I) 13, Janata Party 10, Congress (U) 6, CPI 5, CPM 1, Manipur People's Party 3 and Kuki National Assembly 2 out of 59 seats for which polling was held. Election in one constituency was countermanded.
- 11 Sikkim Janata Parishad wins the lone Lok Sabha seat in Sikkim.
- Pakistan wins seven-nation Champions Cup Hockey tournament held in Karachi. India finishes fifth.
- 14 Prime Minister Indira Gandhi broadcasts to the nation appealing for cooperation to face the stupendous tasks ahead.
- In Manipur, three-member (Congress-I) ministry headed by R. K. Dorendra Singh of a four-party coalition government sworn in.
- Attorney-General of India Lal Narain Sinha, Solicitor-General Soli Sorabjee and Additional Solicitor-General K. K. Venugopal submit their resignations.



Prime Minister Indira Gandhi released a stamp to commemorate the commencement of 15th Century Hijri, Vice-President M. Hidayatullah presenting an album to her



Prime Minister Indira Gandhi commissioning two off-shore platforms manufactured by Mazagon Dock for ONGC in Bombay on 11 October 1980



Prime Minister Indira Gandhi delivering the Presidential Address at a function to celebrate the 150th anniversary of Scottish Church College, Calcutta on 27 September 1980



President Suharto of Indonesia and his wife planting a sapling at Rajghat, Delhi on 2 December 1980

- 15 Union cabinet decides to extend reservation of seats for scheduled castes and scheduled tribes in the Lok Sabha and State Assemblies for 10 years by amending the constitution.
- Special Court No. 2 drops the Maruti and the Bhimsen Sachar cases against Smt. Indira Gandhi and others, stating that the court was not set up constitutionally.
- Madhya Pradesh Chief Minister V. K. Saklecha resigns from the leadership of the State Janata Legislature Party.
- President summons the Lok Sabha to meet on 21 January and Rajya Sabha on 23 January.
- 16 British Foreign Secretary Lord Carrington meets Prime Minister Indira Gandhi in New Delhi.
- A Six-member DMK-Congress (I) ministry headed by D. Ramachandran assumes office in Pondicherry.
- In Goa, three-member Congress (I) ministry, headed by Mr. Pratap Singh Rane sworn-in.
- 18 In Arunachal Pradesh a three-member Congress (I) Ministry headed by Mr. Gagong Apang sworn-in.
- India conveys concern to China over the reported Chinese shipment of arms to Pakistan.
- President Sanjiva Reddy dedicates the Rs 65 crore wheel and axle plant of the Railways at Yelahanka, near Bangalore, to the nation.
- President lays foundation for Rs 197 crore thermal plant, near Raichur the first to be erected in Karnataka.
- 19 Jagjivan Ram unanimously elected leader of the Janata Parliamentary Party.
- 20 UN Secretary-General arrives in New Delhi to attend the UNIDO conference.
- Charan Singh unanimously elected Leader of the Lok Dal (Janata-S) Parliamentary Party.
- In Madhya Pradesh seven member Janata Ministry headed by Sunder Lal Patwa sworn-in.
- India wins Fifth Cricket Test Match against Pakistan by 10 wickets at Madras and also the series.
- 21 President Sanjiva Reddy inaugurates the third general conference of the U.N. Industrial Development Organisation in New Delhi.
- President Zia-ur-Rahman of Bangladesh arrives in New Delhi on a two-day visit.
- Seventh Lok Sabha session begins.
- Under an agreement signed in New Delhi, Sweden is to provide Rs 14 crore assistance to India's national programme for non-formal education.
- 22 Marxist-led Left Democratic Front gets absolute majority by capturing 93 seats out of 140 in Kerala State Assembly elections. Congress (I)-led United Democratic Front gets 46 seats, Janata 5 and Independent 1.
- Haryana Chief Minister Bhajan Lal joins Congress (I) along with 37 MLAs.
- Bal Ram Congress (I) member from Ferozepur unanimously chosen as Speaker of the Lok Sabha.
- 23 President Sanjiva Reddy addresses a joint session of the two Houses of Parliament.

- North Zone wins Duleep Trophy final defeating West Zone by 104 runs at Bombay.
- L. K. Advani of the Janata Party recognised as leader of the opposition in the Rajya Sabha.
- 24 Union government decides to revive *Bharat Ratna* and other national awards.
- Lok Sabha passes the Constitution 45 Amendment Bill extending reservation of seats for scheduled castes and scheduled tribes and representation of Anglo-Indians in the Lok Sabha and State Assemblies for a further period of ten years.
- 25 President Giscard d'Estaing of France arrives in New Delhi on a five-day visit.
- Gas strikes in Tapti complex in the Gulf of Cambay, announced Minister of Petroleum and Chemicals, P. C. Sethi in the Lok Sabha.
- President Neelam Sanjiva Reddy confers *Bharat Ratna* on Mother Teresa; *Padma Vibhushan* on Rai Krishna Dass, eminent scholar and author and Bismillah Khan, eminent classical musician (Hindustani) and *Padma Bhushan* on Sunil M. Gavaskar, distinguished cricketer.
- Rajya Sabha unanimously approves the 45 Constitution Amendment Bill.
- Bhola Paswan Shastri, chairman of the commission of scheduled castes and scheduled tribes resigns.
- E. K. Nayanar (CPI-M) sworn-in as Chief Minister of Kerala along with 16-member Council of Ministers.
- 27 Services retain National Basketball Championship played at Jaipur.
- India's Elangovan wins men's singles title in the Asian Amateur Championship in Tennis held in Bangkok.
- 28 India and France sign major agreement in seven key areas, worth several hundred crores of rupees.
- Lieutenant-Governor of Delhi D. R. Kohli resigns.
- "Rani-Padmini" 75,000-dwt bulk carrier, the biggest ship built in the country floats from Cochin Shipyard into Ernakulam channel.
- 29 Dr. Bruno Kreisky, Federal Chancellor of Australia arrives in New Delhi on a five-day visit.
- Union government accepts the resignation of the Press Commission's Chairman, Mr. Justice Goswami and its ten members.
- 30 For the first time in the history of Indian Parliament, Rajya Sabha adopts by 80 votes to 75, an opposition sponsored amendment to the motion of thanks to the President for his Address.
- India's ambassador to the Soviet Union, Inder Kumar Gujaral resigns.
- 31 Governments of Himachal Pradesh and Haryana sign an agreement to implement the Rs 300 crore Nathpa-Jhakri Hydel Power Project.

February

- 1 G. Lakshmanan of DMK, elected as Deputy Speaker of the Lok Sabha.
- President Sanjiva Reddy opens the 67 session of the Indian Science Congress at Calcutta.

- 2 Lok Sabha passes a bill seeking to amend the Representation of the People Act to readjust the assembly constituencies in Sikkim.
- Lok Sabha passes "Prevention of Blackmarketing and Maintenance of Supplies of Essential Commodities Bill".
- Kapil Dev gets the Test double of 1000 runs and 100 wickets and is the youngest player in the world to achieve this feat.
- 3 Sixth and final Cricket Test Match between India and Pakistan ends in a draw at Calcutta.
- India extends a loan of Rs 7.5 crore to Uganda.
- 4 Rajya Sabha passes the Prevention Detention Bill by voice vote.
- 131-Member National Council of CPI accepts the resignation of its chairman S. A. Dange.
- Indian delegation headed by Foreign Secretary R. D. Sathe reaches Islamabad on a two-day visit.
- 5 Rajya Sabha passes the Central Excise and Salt and Additional Duties of Excise (Amendment) Bill 1980.
- Rajya Sabha passes the Representation of the People (Amendment) Bill 1980 providing for the readjustment of assembly constituencies in Sikkim.
- 7 Iraq to supply additional 20 lakh tonnes of crude and 5 lakh tonnes of kerosene to India.
- 9 Three-week long third general conference of the U.N. Industrial Development Organisation ends in New Delhi.
- 10 Vice-President M. Hidayatullah inaugurates the '1980 World Marketing Congress' in New Delhi.
- 11 India and Soviet Union sign a protocol for scientific and technical cooperation in agriculture in New Delhi.
- R. C. Majumdar, eminent historian dies at Calcutta.
- 14 Ram Lal (Congress I) sworn-in as Chief Minister of Himachal Pradesh.
- Special Court holds that the creation of the Special Courts was illegal and void and says that the Union Law Ministry had no authority to set up these courts on 30 May, 1979.
- 15 Jagmohan appointed Lieutenant-Governor of Delhi.
- Golden Jubilee Cricket Test Match between India and England begins at Bombay.
- 23 Oil and Natural Gas Commission strikes natural gas and oil at another well at the Motwan field, Ankleshwar.
- 24 Chief Minister of Karnataka inducts eight cabinet ministers and five ministers of state to his three-member cabinet.
- First Women's Hockey Test Match between India and Soviet Union ends in a draw in New Delhi.
- 25 Indian and Soviet shipping delegates sign a protocol for further strengthening of the joint liner shipping service operating between the Indian and the Black Sea ports of USSR.
- Indo-French protocol for co-operation in audiovisual techniques signed in New Delhi.
- 26 USSR Chamber of Trade and Industry and Federation of Indian Chambers of Commerce and Industry sign a protocol of co-operation in Moscow.
- Union Ministry of Works and Housing appoints a committee of experts to examine the Urban Ceiling Act and its implementation.

- 27 Jagjivan Ram resigns from the leadership of the Janata Parliamentary Party.
- K. Parasaram, appointed Solicitor-General of India.
- 28 C.P.N. Singh sworn in as Governor of Uttar Pradesh.
- India and France sign a five-year memorandum of understanding envisaging close cooperation in the field of Posts and Telecommunications.
- G. D. Tapase sworn in as Governor of Haryana.
- 29 Three-day meeting of the Joint Rivers Commission of India and Bangladesh ends in New Delhi.
- President Sanjiva Reddy opens the Fourth World Book Fair in New Delhi.
- India is to import 9,00,000 tonnes of kerosene and 8,00,000 tonnes of high speed diesel from the Soviet Union under the Indo-Soviet trade plan for the current year according to a contract signed in New Delhi.

March

- 2 In Cuttack Indian Railway lift the 44 National Hockey Championships beating Indian Airlines in final.
- 3 C. M. Stephen joins union cabinet as Minister for Communications. Four ministers of state also sworn in. They are : C. P. N. Singh (Defence), Sitaram Kesri (Parliamentary Affairs), Dr. Charanjit Chanana (Industry) and Z. R. Ansari (Commerce).
- 4 World Food Programme (WFP) of the United Nations will supply edible oil, milk powder and pulses worth about Rs 8 crores for the workers of Rajasthan Canal area under an agreement signed in New Delhi.
- Ambassador of People's Republic of China to India, Shen Jian presents his credentials to the President.
- 5 Union cabinet decides to hold the 1982 Asian Games in New Delhi.
- Switzerland would provide about Rs 1 crore to the 'Central Silk Board' for locating the 'International Training Institute' at Mysore.
- 6 Prime Minister Indira Gandhi launches the world conservation strategy in New Delhi.
- 7 Veerendra Patil, former Karnataka Chief Minister, sworn-in as cabinet minister in-charge of Petroleum and Chemicals.
- Jagjivan Ram announces his decision to leave the Janata Party.
- 8 India wins seventh and last Women's Hockey Test Match against Soviet Union at Rai, Haryana, and also the series by 3-1.
- 9 India's P Padukone wins men's singles title and a 3,000 dollar-first prize in the Danish Open Badminton Championship in Copenhagen.
- 10 Prime Minister Indira Gandhi inaugurates the plenary session of the FAO Regional Conference for Asia and the Pacific region.
- 11 Full report of the Vaidyalingam Commission, recommending formal inquiry under the Commissions of Inquiry Act, into four charges against Kantilal M. Desai and Smt. Padma Desai (son and daughter-in-law of former Prime Minister Morarji Desai) and three charges against Smt. Gayatri Devi (wife of former Prime Minister, Charan Singh) presented to the Lok Sabha.

- C. B. Gupta, a former U.P. Chief Minister dies in New Delhi.
- 13 Prime Minister Indira Gandhi announces in the Rajya Sabha that her government while remaining committed to peaceful uses of nuclear energy would not hesitate to carry out nuclear explosion or implosions, whatever they might be, "in national interest".
- Union government announces the support price for wheat at Rs 177 per quintal and that of gram at Rs 140 per quintal during the 1980-81 marketing season.
- 14 Posts and Telegraphs employees are to receive productivity linked bonus on the basis of 25 days' wages from 1980-81 onwards according to an agreement signed in New Delhi.
- Lok Sabha passes the Union Duties of Excise (Electricity) Distribution Bill, 1980.
- Prakash Padukone wins the second major title by claiming the men's singles final of the Swedish Open Badminton Championship.
- 15 Hari Singh Nalwa (Congress I) elected to the Rajya Sabha in a by-election from Haryana.
- Chandulal M. Trivedi former Governor of Orissa, Punjab and Andhra Pradesh dies at Kapadvanj in Kaira district, Gujarat.
- 16 Ardh Kumbh Mela begins in Hardwar.
- Canada to give a development assistance loan for agriculture of 2.5 crore Canadian dollars to India under an agreement signed in New Delhi.
- India is to spend Rs 8.50 crores during 1980-81 in assisting the developing countries of Asia, Africa and Latin America under the Indian Technical and Economic Cooperation Programme.
- 18 Japan agrees to give grant to India worth Rs 9.14 crores as debt relief.
- 19 Agreements on British grants totalling Rs 205 crores to India signed in New Delhi.
- Lok Sabha passes the "Requisition and Acquisition of immovable Property" Amendment Bill.
- 21 President dissolves the Delhi Metropolitan Council.
- Prime Minister Indira Gandhi addresses the inaugural function of the Centenary Celebrations of Darul Uloom at Deoband, Uttar Pradesh.
- National Flood Commission set up in 1976, submits its report to the government.
- Five new members elected unopposed to the Rajya Sabha—three from Kerala, one each from Karnataka and Tripura.
- 22 President Sanjiva Reddy presents *Bharat Ratna* award to Mother Teresa, *Padma Vibhushan* to Bismillah Khan, internationally famous *Shehanai* player and Rai Krishnadasa, an eminent scholar, and *Padma Bhushan* to Sunil Gavaskar, cricketer.
- Prime Minister appoints a committee of union ministers to supervise developments in the country's north-eastern region to speedily remove the grievances of people arising out of economic backwardness.
- India and the German Democratic Republic sign a cultural exchange programme for 1980-81.

- 23 Parkash Padukone becomes the first Indian to win 'All England Badminton Championship', and also the badminton "grand slam", having already won Danish and Swedish Open Championships.
- 24 The Aga Khan, religious head of Ismaili Muslims arrives in New Delhi.
- Union Minister for shipping and Transport, A. P. Sharma opens a 260-metre long bridge across the Jeera river on the Calcutta-Bombay National Highway.
- 26 Khan Abdul Ghaffar Khan arrives in New Delhi from Kabul for treatment at the All India Institute of Medical Sciences.
- External Affairs Minister, P. V. Narsimha Rao announces in Parliament, government's decision to accord "full diplomatic status" to the office of the Palestinian Liberation Organisation in New Delhi.
- 27 Parliament approves the proclamation dissolving nine state assemblies.
- 28 Palestine Liberation Organisation Chairman Yasser Arafat arrives in New Delhi.
- Congress (I) wins 10 Rajya Sabha seats—five from Andhra Pradesh three from Karnataka, one each from Assam, and Himachal Pradesh out of 16 for which elections were held at six state capitals.
- Union government orders the winding up of the two special courts in Delhi from 31 March.
- A three-year programme of cooperation in science and technology between India and Soviet Union for 1980-83 signed in New Delhi.
- 30—Jagjivan Ram launches 'real Janata Party' in New Delhi and is elected its President.
- 31 Prime Minister Indira Gandhi attends the 300th death anniversary celebrations of Shivaji at Raigarh fort.
- Rajya Sabha adjourns sine die.

April

- 1 Minister for Information and Broadcasting V. P. Sathe announces 27th National Films Awards for 1979. Veteran film maker Sohrab Modi gets Dadasaheb Phalke Award. "Shodh (Hindi) adjudged the best feature film and gets *Swarna Kamal* (golden lotus).
- 2 President nominates Khushwant Singh, eminent journalist and Smt. Nargis Dutt, former cine actress to the Rajya Sabha.
- 3 Union Minister of State for Industry, Dr. Charanjit Chanana given full charge of the Ministry of Industry.
- India and Soviet Union sign a protocol on the 'working programme of co-operation' between the two countries in the field of irrigation for the next three to four years.
- 4 India and Bangladesh sign an agreement for improving the inland water transport services between the two countries.
- 5 The whole of Assam is declared as "disturbed area" by the Governor of north-eastern States.
- 6 Union government issues two Ordinances to tackle disturbances in Assam—one to prohibit strikes in any essential services in the state and the other to restrict transfer of land.
- Jana Sangh group and others form a new party "Bhartiya Janata Party" and Atal Bihari Vajpayee elected its President.

- 7 Portugal and India sign a cultural agreement in the academic, linguistic, artistic and sports fields in Lisbon.
- Gauhati High Court issues interim orders staying operation of two Government Notifications issued under the Assam Disturbed Areas Act, 1955 and Armed Forces (Assam and Manipur) Special Powers Act, 1958 declaring the entire State except North Cachar Hills district a disturbed area for two months.
- 8 Jagjivan Ram joins Congress (U).
- 9 India and France sign an agreement for setting up of an alumina complex in Orissa to exploit extensive bauxite reserves.
- 10 Special emissary of the Prime Minister, Swaran Singh reaches Islamabad.
- India and France sign a protocol for cooperation in the field of petroleum and gas.
- 11 Supreme Court upholds the constitutional validity of the Special Courts Act, 1979 and acquits V. C. Shukla former Union Minister of Information and Broadcasting, and Sanjay Gandhi, now M.P. of "all the Charges" of criminal conspiracy and various other offences in respect of the negative and positive print of the film '*Kissa Kursi Kaa*'.
- Delhi Corporation superseded for one year by the Union Home Ministry. All the powers of the Corporation will now vest in the Municipal Commissioner.
- 12 Union Finance Minister, announces reduction of premium rates of most insurance plans of the Life Insurance Corporation.
- 14 A textile mill fitter from Baroda, Ram Bhulchand Lalwani, allegedly makes an attempt on the life of the Prime Minister Indira Gandhi.
- President gives assent to the 45th Constitution (Amendment) Bill which extends reservation for scheduled castes and scheduled tribes in the Lok Sabha and state assemblies for a further period of ten years.
- Union of India files a petition in the Supreme Court challenging the Gauhati High Court order staying the operation of the Assam Disturbed Area Act, 1955 and the Armed Forces (Special Powers) Act, 1958.
- 15 Six commercial banks with deposits of Rs 200 crores and above, each, as on 19 March, 1980, nationalised through a Presidential Ordinance. The banks, are : the Andhra bank, Corporation Bank, the New Bank of India, the Oriental Bank of Commerce, the Punjab and Sind Bank and Vijaya Bank.
- Union government announces import policy for 1980-81.
- Prime Minister Indira Gandhi and five others cleared of criminal and corruption charges in the jeeps case.
- President Kenneth Kaunda of Zambia arrives in New Delhi on a two-day visit.
- 16 Supreme Court refuses to interfere with the order of the Gauhati High Court staying the operation of the Assam Disturbed Areas Act, 1955 and the Armed Forces (Special Powers) Act, 1958. The Court, however, directs the High Court to hear the case on 18 April.
- Prime Minister Indira Gandhi reaches Dar-es-Salam (Tanzania).

- Indian and Soviet Union sign a protocol for conducting joint geographical surveys and drilling operations for oil in specified areas of Tripura and West Bengal for five years.
- Delhi wins Ranji Trophy defeating Bombay by 240 runs in the finals in New Delhi.
- 17 Prime Minister Indira Gandhi reaches Salisbury, Zimbabwe to attend the independence day celebrations.
- International Development Association announces two credits totalling 5 crore dollars to India.
- Chief Election Commissioner, announces that the elections to the nine state assemblies, dissolved in the third week of February, would be held on 27 and 30 May.
- 18 Prime Minister Indira Gandhi meets President Zia-ul-Haq of Pakistan in Salisbury and also the Chinese Foreign Minister, Huang Hua.
- Chief Minister of Nagaland, Vizol resigns. Three-member United Legislative Party and Congress (I) coalition Ministry, headed by S. C. Jamir, sworn-in.
- 19 Under an agreement, signed in Moscow on 18 April, India and Soviet Union are to co-operate actively in the next two years in some of the sensitive sectors of public health and medical sciences including cancer research.
- The Katpadi-Villupuram passenger train while crossing a bridge falls in the dry bed of a river, killing 10 passengers and injuring 40.
- 21 International Development Association announces three credits totalling 29.3 crore dollars to India.
- Gauhati High Court issues notices to the Union of India and the Assam Government to show cause why contempt proceedings should not be initiated against them for violation of an order issued by the Court on 18th April.
- India and Iraq sign a protocol in New Delhi to expand economic and technical cooperation between the two countries.
- 22 Union of India and the State of Assam file a petition in the Supreme Court against partial stay ordered by the Gauhati High Court of two official Notifications declaring Assam a disturbed area.
- 24 The Head of the Nirankari religious sect, Baba Gurbachan Singh shot dead in New Delhi.
- Election Commission freezes the Janata Party symbol of "haldhar within a wheel" and grants recognition to Bharatiya Janata Party as a "national party" and allots it the "lotus" symbol for the coming assembly elections.
- International Development Association approves 21 crore dollars credit for a project to support the introduction of improved irrigation technologies in Maharashtra.
- 25 Governors of nine-states under President's rule issue notifications calling upon the assembly constituencies to elect their representatives for constituting new assemblies.
- 26 Assamese noted poet and novelist, Birendra Kumar Bhattacharya wins Indian's highest literary award "Jnanpeeth" for 1979 for his novel 'Mrityunjaya'.
- Union cabinet decides to hold the 1982 Asian Games in three places—Delhi, Rai and Bombay.

- Indian Railways introduce double-decker coaches in "Brindavan Express" running between Madras and Bangalore.
- 29 India and Italy sign a three-year cooperation agreement in science and technology in New Delhi.
- Supreme Court directs the Election Commission to "recognise" the party led by Chandra Shekhar "as a national party".
- 30 Election Commission recognises Janata Party led by Chandra Sekhar as a national party for the purpose of the forthcoming elections in nine states and allots it the "umbrella" symbol.
- C. M. Poonacha sworn-in as Governor of Orissa and Bhagwat Dayal Sharma as Governor of Madhya Pradesh.

May

- 1 International Development Association announces the approval of two credits, totalling 19.7 crore dollars to help finance development of irrigation in Gujarat and increase cashewnut production in Andhra Pradesh, Karnataka, Kerala and Orissa.
- 2 Supreme Court dismisses a special leave petition challenging the withdrawal of criminal proceedings against the former Defence Minister, Bansi Lal, his son Surinder Singh and several others in four of the 25 criminal cases lodged against them during the Janata regime.
- 3 Union Minister of Shipping and Transport, A. P. Sharma, announces the setting up of a 20-member committee by the government to go into the wage revision of port and dock workers.
- 6 Chief Ministers of Himachal Pradesh and Haryana sign an agreement for the execution of Naphtha Jhakri project, located on the Sutlej in Himachal Pradesh.
- 7 Prime Minister Indira Gandhi leaves New Delhi for Belgrade to attend Marshal Tito's funeral.
- 8 India and Bulgaria sign a protocol in New Delhi to set up agro-industrial complex in Karnataka and Bihar.
- State Trading Corporation signs an agreement with Bulgaria for the export of finished leather and leather shoe uppers valued at about Rs 30 crores for a period of five years.
- 9 Supreme Court declares void two sections 4 and 55 of the 42nd amendment Act, 1976 which give primacy to the directive principles over fundamental rights and give absolute power to Parliament to amend the Constitution.
- Supreme Court holds valid and constitutional all amendments to the Constitution which were made before 24 April 1973 and by which the 9th Schedule to the Constitution was amended from time to time by the inclusion of various Acts and Regulations therein.
- 10 Union government sets a panel with Dr. Seyid Mohammad as chairman to go into the question of fiscal policies and incentives for the weaker sections.
- 11 Cannes Film Festival opens—India's entry is Mrinal Sen's "*Ek Din Pratidin*".
- 13 Iraq awards to India three big-projects worth Rs 400 crores to be executed in the next few months.
- 14 President promulgates two Ordinances—Essential Services Maintenance (Maharashtra) Ordinance, 1980 and Gujarat Essential Services Maintenance (Amendment) Ordinance, 1980 prohibiting strikes in essential services in these two states.

- World Bank sanctions a loan of 10 crore dollars to the Industrial Credit and Investment Corporation of India to help it meet the foreign exchange requirements.
- 15—The first Indian designed frigate "INS Godavari" launched at the Mazagon Dock.
- A new department called "Defence Research and Development" is created in the Defence Ministry to ensure bigger indigenous share in the production of defence material.
- 16 U.S. Nuclear Regulatory Commission votes against granting export licence for the shipment of uranium to India.
- Fifth leander Class frigate built at Mazagon Dock Commissioned and named "INS Taragiri".
- 17 Union government appoints the former Reserve Bank Governor, K. R. Puri to enquire into the gold auctions conducted by Janata Party Government in 1978.
- International Food and Agriculture Development Association agrees to provide Rs 92.94 crores for the second phase of the first command area development of the Rajasthan Canal Project.
- 19 H. N. Bahuguna resigns from Lok Sabha and Congress (I).
- General T. N. Raina, India's High Commissioner to Canada dies in Ottawa.
- 21 India and Tanzania sign an agreement to provide for a weekly air service between the two countries.
- 22 Mahavir Tyagi, former union minister, dies in Delhi.
- 23 International Development Association announces a credit of 30 crore dollars to finance the second stage of the Singrauli Super-Thermal Power Station (Uttar Pradesh).
- India and Soviet Union sign a protocol on a long-term working programme of cooperation in the field of drugs and pharmaceuticals.
- 24, The Additional Chief Metropolitan Magistrate, S. M. Aggarwal drops proceedings against Smt. Indira Gandhi, R. K. Dhawan and P. S. Bhinder in the Sachar detention case.
- India and the United Nations Development Programme (UNDP) sign an agreement to provide framework of activities by India and other developing countries to promote technical co-operation among themselves.
- Union Industry Ministry announces reservation of 27 more items for exclusive production in the small scale sector.
- 28 More than 9.1 crore voters go to the polls to elect 860 assembly members in the first round in six states.
- India-receives the first instalment of 30 tonnes of heavy water from the Soviet Union. This is part of the shipment under an agreement for the supply of 250 tonnes of heavy water.
- 30 The Supreme Court vacates its earlier ex-parte order of May 12 staying hearing by the Gauhati High Court of three writ petitions challenging the constitutional validity of the Assam (Disturbed Areas) Act and the Armed Forces (Special Powers) Act as well as 6 habeas corpus petitions filed by persons detained under the Assam Preventive Detention Ordinance. The Court also dismisses the leave petition filed by the Union Government and the Assam Government challenging the Gauhati High Court order of April 18 granting partial stay

of Section 4 of the Assam (Disturbed Areas) Act and 4-A of the Armed Forces Act.

- 31 Over 13 crore voters go to the polls to choose 1,367 representatives to the various assemblies.
- Leaders of the seven opposition groups in Parliament at their meeting with the Prime Minister unanimously appeal to Assam agitators to call off their movement immediately to create an atmosphere conducive to negotiations for a settlement of the 'foreigners issue'. Three parties—the Bhartiya Janata Party, the Janata Party (JP) and the Lok Dal abstain from the meeting.

June

- 1 The Congress (I) wins absolute majority in three States—Gujarat, Punjab and Rajasthan. The AIADMK recaptures power in Tamil Nadu.
- The All-Assam Students Union and the Gana Sangram Parishad reject the appeal of the conference of political parties convened by the Prime Minister to immediately call off the agitation in Assam.
- 2 Congress (I) secures a two-third majority in five States—Gujarat, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh and gains absolute majority in Maharashtra and Punjab and near majority in Bihar.
- The Andhra Pradesh Chief Minister Dr. Chenna Reddy releases the Telegu translation of the Indian Constitution at Hyderabad.
- 3 The union cabinet approves payment of another instalment of dearness allowance to central government employees from 1 February this year.
- 4 The special judge, of Delhi Mr. Aggarwal, accepts the CBI plea to drop criminal proceedings against Smt. Indira Gandhi and 14 others for the arrest and detention of opposition leaders during the emergency.
- The World Bank's lending agency, International Development Association (IDA) approves two credits totalling \$ 11 crore (Rs 88 crore approx) to India. The first credit of \$ 5.6 crore is to help the Calcutta transportation system and the remaining \$ 5.4 crore to help develop sericulture industries in Karnataka.
- V. Bhaskaran of the Railways selected to lead the Indian Hockey team for the Moscow Olympic Games.
- 5 The new 16-member Naga National Democratic Party Government headed by J. B. Jasokie is sworn-in at Kohima.
- The Assam Government issues a notification extending the period of the Assam Disturbed Areas Act, 1955 and the Armed Forces (Special Power) Act, 1958 for another two months.
- 6 Jagannath Pahadia, of Congress (I) is sworn-in as Chief Minister of Rajasthan.
- The additional Chief Metropolitan Magistrate Delhi, Mr. Aggarwal allows CBI to close criminal proceedings against Sanjay Gandhi, relating to the sale of steel allocated to Maruti Limited.
- 7 The Gujarat Governor, Mrs. Sharda Mukherjee administers the oath of office and secrecy to Madhav Sinh Solanki as Chief Minister and his 19 cabinet colleagues.

- 7 Darbara Singh, leader of the Punjab Congress (I) legislature party, is sworn-in as Chief Minister of Punjab by the Governor, Jaisukhlal Hathi.
 - Prices of all petroleum products except kerosene and cooking gas, increased.
 - Fertilizer prices raised.
- 8 Prime Minister Indira Gandhi inducts three cabinet ministers, six ministers of state and six deputy ministers into her council of ministers raising its strength to 41.
 - Dr. Jagannath Mishra, leader of the Congress (I) legislature party sworn in as Chief Minister of Bihar along with 38 members of his council of ministers at Patna.
 - Top seeded Indian badminton player Prakash Padukone becomes the first Indian to be awarded the International Fair-play Trophy and Diploma.
- 9 The Governor, L. P. Singh, invokes the Assam Disturbed Areas Act, 1955, as extended to Tripura in 1972 along with the Armed Forces (Special Powers) Act, 1958 in the two districts of Tripura for three months following violent incidents.
 - An 18-member AIADMK ministry in Tamil Nadu headed by M. G. Ramachandran sworn-in in Madras.
 - Janaki Ballabh Patnaik assumes charge as Chief Minister in Orissa heading a 19-men Congress (I) ministry.
 - A 15-member ministry headed by Vishwanath Pratap Singh assumes charge in Uttar Pradesh.
 - A. R. Antulay of Congress (I) takes over as Chief Minister of Maharashtra.
 - Arjun Singh, and S. B. Solanki sworn-in as Chief Minister and Deputy Chief Minister respectively of Congress (I) ministry in Madhya Pradesh.
 - The Supreme Court transfers from the Gauhati High Court to the Delhi High Court seven habeas corpus petitions and four writ petitions challenging the constitutional validity of Assam (Disturbed Areas) Act, the Armed Forces (Special Powers) Act and the Assam Preventive Detention Ordinance.
- 13 Smt. Indira Gandhi, in her capacity as Congress (I) President, appoints Sanjay Gandhi, Shyam Sunder Mahapatro, Ram Sewak Choudhury and G. K. Moopnar as general secretaries of the party.
 - India and Iran agree to expand bilateral co-operation in the fields of food and agriculture, drugs, and pharmaceuticals, etc., at the conclusion of Iranian delegation's visit to India.
 - The State of Assam and the Union of India file, in the Supreme Court, a special leave petition challenging an order and judgement of Gauhati High Court releasing 'forthwith' all eight leaders of Assam movement held under the Preventive Detention Ordinance.
- 14 India and Soviet Union sign a contract for the export of Indian heavy machinery worth over Rs 20 crores.
- 15 India's Syed Modi wins the singles title at an International Badminton Tournament in Auckland, beating Haryanto Saputra of Indonesia by 15-1, 15-3.
- 16 Railway Minister Kamalapati Tripathi presents the Railway Budget for 1980-81 to Parliament.

- 18 Finance Minister Venkataraman presents the union budget for 1980-81 to Parliament.
 - 19 The U.S. President signs an executive order approving pending shipments of enriched uranium for the Tarapur Power Plant and transmits it to the Congress.
 - In Moscow, India and the Soviet Union sign an agreement under which the Soviet Union will supply two lakh tonnes of additional crude and five lakh tonnes of high speed diesel in exchange for five lakh tonnes of rice.
 - Maharashtra's Avinash Awate becomes the new National B chess champion defeating D. V. Prasad of Karnataka in New Delhi.
 - 20 France opens a credit line of 60 crore francs (about \$ 146 million) to India under the terms of a financial accord signed in Paris.
 - 21 Peking suggests that its border problem with India be settled on the basis of the present line of actual control.
 - 22 Kishan Lal, a veteran hockey star, who led India in the 1948 London olympics, died at Madras, following a heart attack.
 - 23 Sanjay Gandhi, M.P., dies with his co-pilot Subhash Saxena in a plane crash in New Delhi.
 - 24 Former President, V. V. Giri dies in Madras.
 - India and West Germany sign an agreement in Bonn, under which West Germany will give India 39 crore Deutsch marks (about Rs 156 crores) as aid during the current financial year.
 - V. V. Giri, former President, cremated with full military honours, at the Mylapore crematorium in Madras.
 - All India Council of Sports (AICS) recommends a 75-member Indian contingent to participate in the Moscow Olympics.
 - 26 Oil and gas struck in the Bay of Bengal.
 - 27 Twenty-five of the 32-member United States House Committee oppose President Jimmy Carter's plan to send 38 tonnes of nuclear fuel to India.
 - The World Bank and International Development Association (IDA) announce a loan totalling \$ 25 crore (about Rs 195 crores) for the super-thirmal power project at Farakka in West Bengal.
 - 28 Dr. A. M. Khusro, noted economist, named India's ambassador to the Federal Republic of Germany.
 - 30 India and USA signs two agreements in New Delhi, under which USA would extend a loan totalling \$ 3.5 crore (Rs. 29 crores) to India, as part of development assistance for 1980.
 - India and Pakistan sign an agreement in New Delhi providing for the use of wide-bodied air-craft on Delhi-Karachi and Bombay-Karachi routes.
-
- 1 Bulgaria offers to supply fertilizer to India at the rate of 2 lakh tonnes every year.
 - 2 Lieutenant-General A. N. Sethna appointed Vice-Chief of the Army Staff.
 - Newsprint allocation policy for 1980-81 announced in the Lok Sabha.

- 4 President Sanjiva Reddy gives his assent to the Tripura Security Bill, arming the state administration with sufficient powers to curb violent and anti-national activities.
- World Bank Consortium pledges economic aid to India totalling \$ 340 crores for 1980-81.
- 5 The Lok Sabha confers on the President, legislative powers for the State of Assam.
- 7 The long-standing dispute over Godavari waters among the States of Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra and Orissa settled with the submission of a report by the Godavari Waters Disputes Tribunal.
- India recognises the Kampuchean Government headed by President Heng Samrin.
- 11 Joint statement issued at the conclusion of Indo-Bangladesh talks on the Ganga waters in Dacca.
- An Indian film "Neem Annapurna" wins special jury prize at the Karlovy Vary Film Festival in Czechoslovakia.
- 12 Congress (I) gets absolute majority in the 244-member Rajya Sabha.
- 13 Master Nissar, singer-actor, dies in Bombay.
- 14 Dinen Bhattacharya, (CPI-M), Member of Parliament, dies in New Delhi.
- India's Vijay Amritraj wins the Hall of Fame Tennis title defeating Andrew Pattison of Zimbabwe by 6-1, 5-7, 6-3 at Newport (Rhode Island) USA.
- 15 Agha Shahi, Pakistan foreign minister, arrives in New Delhi.
- 17 India elected leader of the second committee of the world conference of the United Nations Decade for Women being held at Copenhagen.
- 18 India puts its first satellite Rohini-I into orbit through the successful launching of the indigenously built four-stage rocket SLV-3 from the Sriharikota launching pad in Andhra Pradesh.
- Productivity-linked bonus scheme to be extended to the civilian employees of various defence repair and maintenance units.
- Khan Abdul Ghaffar Khan leaves New Delhi for Kabul after medical treatment.
- Jaoomal Naoomal, cricketer, dies in Bombay.
- 19 Two-day state labour ministers' conference begins in New Delhi.
- Laying of the broad-band submarine telephone cable between Madras and Penang in Malaysia begins.
- 21 Rai Krishna Das, Hindi litterateur, dies in Varanasi.
- V. A. Seyid Muhammad appointed India's high commissioner to the UK.
- An Indo-Nepalese agreement for having "more reliable and stable" telecommunication links between the two countries signed in Kathmandu.
- 22 External Affairs Minister P. V. Narsimha Rao, addresses the five-day UN General Assembly emergency special session.
- 23 New industrial policy announced.
- A high level working group to suggest measures for evolving an efficient system of supply and distribution of essential commodities set up by the Planning Commission.

- Interim reports of the Gurdev Singh Commission which inquired into the allegations of corruption against the erstwhile Zail Singh Ministry, laid on the table of the Vidhan Sabha in Punjab.
- 24 Uttam Kumar, matinee idol of the Bengali screen, dies in Calcutta.
- B. C. Mohanty, former member of the Rajya Sabha and Vice-President of the Indian Olympic Association, dies in Moscow.
- Revised terms of reference of the Press Commission announced in Parliament.
- 25 Additional instalment of dearness allowance for central Government employees with effect from 1 May announced.
- The 1978 and 1979 Shanti Swarup Bhatnagar awards for science and technology presented to 18 scientists in New Delhi.
- 27 Raj Narain resigns from the chairmanship of Janata (S).
- 29 India regains after 16 years, the Olympic hockey title, defeating Spain 4-3 in the final at the Moscow Olympics.
- India's new Ambassdaor to China, K. S. Bajpai, presents credentials.
- 30 Union Home Minister Zail Singh announces in the Lok Sabha the government's decision to release on 2 August all detenus in Assam not involved in violence and withdraw all notifications issued under the Assam Disturbed Areas Act and the Armed Forces (Special-Powers) Act, provided the All Assam Students Union and All-Assam Gana Sangram Parishad withdraw the agitation from the same date.
- The Mizo National Front to stop all underground activities in the union territory with effect from the midnight of 31 July and the government to suspend operations by the security forces simultaneously under an agreement reached between the government and the MNF.
- Shyam Lal Ladav elected Deputy Chairman of the Rajya Sabha.
- 31 Mohammed Rafi, play-back singer, dies in Bombay.

August

- 2 The Bihar government decides to scrap total prohibition from 11 August.
- 4 The Assam agitators agree that their agitation except the blockade on crude oil, 'will remain withdrawn' till the government settles the dispute through discussions.
- India again rejects the Pakistani proposal for a nuclear-weapons free zone in south Asia.
- 6 Petroleum Minister confirms the government's decision to invite foreign firms for onland and off-shore exploration for oil.
- 12 The Allahabad High Court dismisses the election petition filed against Smt. Indira Gandhi challenging her election to the Lok Sabha from Rae Bareli constituency.
- The Bihar Government promulgates five ordinances for re-organising the education system.

- 12 The International Monetary Fund grants India a credit of about Rs 282.40 crores to help the country offset the declining export turnover.
- 13 The Palekar wage tribunal award for journalists and non-journalists presented to government.
- 15 Curfew clamped in some areas of Delhi following mob violence and arson.
- 16 The Uttar Pradesh Governor promulgates an ordinance empowering the government to detain a person in the interest of peace and public order for six months.
- The External Affairs Minister P. V. Narsimha Rao arrives in Dacca for talks with Bangladesh leaders on matters of mutual interest and extending bilateral co-operation.
- 20 Twenty-one state governments announce issue of new loans for amounts aggregate Rs 299.75 crores.
- 21 The President promulgates an ordinance stipulating a minimum of 8.33 per cent and a maximum of 20 per cent bonus for workers in the organised sector.
- Punjab wins the 17 Junior National Women's Hockey championship in Trivandrum beating Kerala by 4-0.
- 22 The well-known film producer, director, and actor, Kishore Sahu dies in Bangkok after a severe heart attack.
- 23 The Jammu and Kashmir Governor promulgates an ordinance providing deterrent punishment for communal offences.
- 27 With the launching of Varuna at Bhavnagar, India becomes the first country in Asia to have its own sail training ship for the sea cadet corps.
- 28 The Maharashtra Governor promulgates an ordinance assuming powers of preventive detention aimed at communal and other dangerous activities.

September

- 4 President, Sanjiva Reddy, opens five-day second Commonwealth Regional Heads of Government Conference in New Delhi.
- 5 Madhya Pradesh High Court sets aside election of V. C. Shukla to the Lok Sabha.
- Central government seeks review of *Minerva mill case* by not less than seven judges.
- 6 Sole selling agents system in sugar, vanaspati goes for five years.
- V. C. Shukla heads the reorganised Asian games panel.
- Centre clears a new port, Nhava-Sheva, new satellite port of Bombay harbour.
- 9 Amir of Kuwait Jabar-Ahmad Jabar-el-Sabah arrives in New Delhi.
- 10 US Congress panels bar N-fuel supply to India.
- 12 Zambian President Dr. Kenneth Kaunda arrives in New Delhi.
- 13 India and Zambia sign four protocols on industrial and economic co-operation.
- 14 Dr. Karan Singh, former union minister, resigns from Congress (U).
- 15 Rajadhyaksha Committee on Power submits its report to central government.
- 16 ONGC discovers gas in Angleshwar.

- 19 Government constitutes high power legal aid committee headed by Justice Bhagwati of Supreme Court to draw up a scheme for free legal aid to poor.
- 22 The President promulgates National Security Ordinance. Government given powers for preventive detention.
- 23 The President promulgates the Criminal Procedure Code Amendment Ordinance to enable administration to deal with habitual criminals and those creating enmity between different groups and communities.
- 24 US Senate votes for supply of uranium for Tarapur.
- 25 Supreme Court grants conditional stay for V. C. Shukla, against M.P. High Court judgment setting aside his election to Lok Sabha.
- 26 Yugoslavia Prime Minister Veselin Djuranovic arrives in New Delhi.
- India-Yugoslavia sign a five-year (1981—85) agreement on economic co-operation.
- Dr. Gopal Singh is named new chief of minorities panel.
- 29 President Sanjeeva Reddy arrives in Moscow on nine-day official visit to USSR.

October

- 6 Union government raises support price of sugarcane and paddy.
- 7 President Sanjiva Reddy arrives in Sofia, Bulgaria, on a six-day goodwill visit.
- 8 Second Kota atomic power station becomes critical.
- 75 Naga rebels killed in clash with rival group.
- 19.8 tonnes of enriched US uranium arrives at Bombay.
- 9 Janata Party (JP) gets Haldhar as election symbol.
- Former union deputy minister Shyamdhara Mishra gets life imprisonment for murder.
- Fire destroys Jammu and Kashmir Assembly at Srinagar.
- 11 Jammu and Kashmir assembly removes its speaker, Malik Mohiuddin, by 48 votes to 21 in Srinagar.
- T. Anjiah sworn-in as Chief Minister of Andhra Pradesh.
- Sunil Gavaskar to lead Indian cricket team in forthcoming tours of Australia, New Zealand and Fiji.
- 12 President returns to New Delhi after 14-day visit to Soviet Union and Bulgaria.
- Hailstorm kills 35 persons in Peer Panchal in Jammu and Kashmir.
- 14 Central government takes over Maruti Limited.
- U.P. wins national (junior) hockey championship defeating combined universities by 1-0.
- Centre floats two loans totalling Rs 600 crores.
- Parmanand of ruling National Conference, elected speaker of Jammu and Kashmir assembly.
- Government amends MRTP Act to boost exports.
- 15 Union government announces endorsement system for passport holders from 1 November 1980.
- 16 President appoints K. K. Hebbar chairman of Lalit Kala Academy.
- 19 Eleven new ministers inducted in central council of ministers.
- 21 Agricultural Prices Commission recommends Rs 127 per quintal for wheat for 1980-81 crop.
- 23 Centre stops 1981 census work in Assam.

- President Spyros Kyprianou of Cyprus arrives in New Delhi.
- 24 India and Cyprus sign a five-year agreement for co-operation in the fields of culture, education, mass media, sports, arts and archaeology.
- 25 Kamlapati Tripathi Minister for Railways resigns from union cabinet.
- Indian satellite Rohini, completes 100 days in space.
- 26 President removes Governor of Tamil Nadu Prabhu Das Patwari and appoints Sadiq Ali.
- 27 Assam agitation on foreigners issue resumed after three months.
- Mauritius Prime Minister Sir Seewoo Sagur Ramgoolam arrives in New Delhi on a seven-day official visit.
- 28 In second phase of Assam agitation blockade of jute and timber restarts.
- Central government announces a new insurance scheme for central staff entering service on or after 1 November 1980.
- India and Russia sign a protocol covering contracts for supply to castings and forging from the Indian Heavy Engineering Complex to Soviet enterprises.
- Government of India decides to permit investments in India from oil exporting developing countries.
- 30 C. P. N. Singh, Minister of State for Science and Technology to look after Electronics Department also.
- 31 New Oil Complex at Bombay High starts oil production.
- Danish Prime Minister, Anker Jorgesen arrives in New Delhi on a nine-day visit to India.

November

- 1 Ram Kishore Vyas takes over as Lt. Governor of Pondicherry.
- 2 Oil pumping with the Army help in Assam restarts after an eleven-month halt.
- 3 Air Chief Marshal (retd.) O. P. Mehra sworn-in as Governor of Maharashtra.
- Prime Minister Indira Gandhi releases Hijri stamp in New Delhi.
- 4 Sadiq Ali sworn in as Tamil Nadu Governor.
- All Gauhati refinery units stop work as 1200 oil employees cease work.
- 6 Union government constitutes 53-member National Integration Council.
- 9 Mohammedans Sporting of Calcutta wins DCM football tournament defeating Bank of Seoul and Trust Co., South Korea.
- 10 Supreme Court upholds 15 per cent bonus for LIC employees.
- 11 Union government raise issue price of levy sugar by 65 paise per kilogram. Issue price of rice and coarse grains also goes up.
- UPSC decides to open more new examination centres in north-east India.
- 12 President accepts Railway Minister Kamlapati Tripathi's resignation from union cabinet.
- 13 Supreme Court upholds the constitutional validity of the Urban Land (Ceiling and Regulation) Act, 1976.
- Supreme Court decides that citizens can enforce their fundamental rights under Part-III of the Constitution against gov-

- ernment companies.
- 14 Supreme Court upholds the constitutional validity of reservation of jobs for members of the scheduled castes and tribes for initial recruitment and at the stage of promotion.
- Prime Minister Indira Gandhi opens a satellite communication centre at Sikandrabad (Uttar Pradesh).
- India-Hungary sign a trade protocol in New Delhi.
- 16 Kedar Pande the Railway Minister removes all the sitting members of Railway Board and appoints new members.
- 17 Mallikarjun, Deputy Minister for Railways, also to act as Deputy Minister of Parliamentary Affairs.
- 19 Manipur Chief Minister, Dorendra Singh, resigns.
- 20 Burmese President, Gen Ne win arrives in New Delhi.
- 24 Prince Charles, heir to the British throne, arrives in New Delhi on a 13-day visit.
- 28 B. N. Sircur, doyen of film making, dies in Calcutta at the age of 80.
- 29 Homi J. H. Talyarkhan appointed Governor of Sikkim.
- President appoints Appajee Varadarajan Judge of Supreme Court.

December

- 1 President Suharto of Indonesia arrives in New Delhi.
- Parliament condemns the blinding of 31 undertrials in Bhagalpur in Bihar.
- Supreme Court orders inquiry into the reported blinding of prisoners in Bhagalpur jail.
- Lok Sabha passes the Monopolies and Restrictive Trade Practices (Amendment) Bill.
- Hanumanthayya, former railway minister dies at Bangalore.
- 4 Joint communique issued by Indonesian President and Prime Minister of India.
- Rajya Sabha passes bill to improve working conditions of Supreme Court and High Court judges.
- 6 President's rule in Assam revoked.
- Smt. Anwara Taimur heads eight-member Congress (I) ministry in Assam.
- India defeats Australia in the first match in the Benson and Hedges world series at Melbourne.
- 8 Soviet President Leonid Brezhnev arrives in New Delhi.
- Rajya Sabha passes the Monopolies and Restrictive Trade Practices (Amendment) Bill, 1980.
- 9 Lok Sabha passes the Code of Criminal Procedure (Amendment) Bill.
- India beats New Zealand in Benson and Hedges world series cricket match.
- 10 World Bank approves a loan of 40 crore dollars for Bombay High.
- Parliament passes the Jute Companies (Nationalization) Bill, 1980.
- 12 A. B. Vajpayee elected president of Bhartiya Janata Party.
- 13 The 1980 Jawaharlal Nehru Award for Promotion of Peace and International Understanding goes to Barbara Ward, British economist.
- 14 Dr. Bishwajit Chowdhary wins 1979 Borlaug Award for service to agriculture.

- 15 Prime Minister presents 15th Jnanpeeth Award for 1979 to Dr. Birendra Kumar Bhattacharya for his novel '*Mrityunjaya*'.
- 16 Lok Sabha passes the National Security Bill.
- Ram Subhag Singh, former Railway Minister dies in New Delhi.
- 18 Lok Sabha adopts the bill for takeover of Maruti.
- 19 Lok Sabha passes the Payment of Bonus (Second Amendment) Bill, 1980 to make minimum bonus of 8.33 per cent as a permanent feature.
- 22 Rajya Sabha passes the National Security Bill.
- The commissioner of scheduled castes and scheduled tribes suggests the setting up of a ministry for scheduled castes and tribes at the centre.
- 23 Assam Government assumes special power to combat inflammatory publications under the Assam Special Powers (Press) Act, 1960.
- Union government accepts recommendation of the Palekar Tribunal for journalists and non-journalists employees of newspapers with some modifications.
- 24 Prime Minister Indira Gandhi inaugurates the Indian Mountaineering Foundation Headquarters Complex in New Delhi.
- Rajya Sabha approves the Payment of Bonus (Second Amendment) Bill, 1980.
- Union government introduces in Rajya Sabha a bill to amend the Cinematograph Act of 1952.
- 26 Ustad Chand Khan, 92 classical vocalist and head of the Delhi gharana, dies in Delhi.
- 29 Union government appoints Dr. H. N. Sethna as principal Secretary in the Atomic Energy Department.
- Era Sezhiyan Committee on the working of the Life Insurance Corporation, suggests common pay commission for all public sector institutions of same type.
- Union government announces Shanti Swarup Bhatnagar awards for 1980 for ten scientists.
- 30 Prime Minister Indira Gandhi lays the foundation-stone of the Rs 260 crore thermal plant at Ropar (Punjab).

APPENDICES

PERSONNEL OF THE GOVERNMENT¹

President :

Neelam Sanjiva Reddy

Vice-President :

M. Hidayatullah

Members of Cabinet

1. Smt. Indira Gandhi
2. Pranab Kumar Mukherjee
3. P. V. Narasimha Rao
4. Giani Zail Singh
5. C. M. Stephen
6. R. Venkataraman
7. A. B. A. Ghani Khan Chaudhuri
8. S. B. Chavan
9. Kedar Pande
10. Veerendra Patil
11. Vasant Sathe
12. P. C. Sethi
13. Shiv Shankar
14. B. Shankaranand
15. A. P. Sharma
16. Bhichma Narain Singh
17. Rao Birendra Singh
18. Narain Datt Tiwari

Ministers of State

1. Z. R. Ansari
2. Bhagwat Jha Azad²
3. Charanjit Chanana
4. Chandulal Chandrakar
5. Sheila Kaul
6. Sita Ram Kesri
7. Khursheed Alam Khan
8. Nihar Ranjan Laskar
9. Vikram Mahajan
10. Yogendra Makwana
11. Karik Oraon
12. Shivraj V. Patil
13. Baleshwar Ram
14. C. K. Jaffar Sharief
15. Buta Singh
16. C. P. N. Singh
17. Dalbir Singh
18. Ram Dulari Sinha
19. Sawai Singh Sisodia
20. R. V. Swaminathan
21. P. Venkatasubbaiah

Deputy Ministers

1. Mohammed Usman Arif
2. Maganbhai Barot
3. Kumudben M. Joshi
4. Kamla Kumari
5. Mallikarjun
6. Brajmohan Mohanty
7. Vijay N. Patil
8. P. Venkata Reddy
9. P. A. Sangma
10. P. K. Thungon

Portfolios

Prime Minister (all ministries/departments not specified below)
 Commerce and Steel and Mines
 External Affairs
 Home Affairs
 Communications
 Finance
 Energy
 Planning
 Railways
 Shipping and Transport
 Information & Broadcasting
 Petroleum, Chemicals & Fertilizers
 Law, Justice and Company Affairs
 Health and Family Welfare
 Tourism and Civil Aviation
 Parliamentary Affairs and Works and Housing
 Agriculture, Rural Reconstruction and Irrigation
 and Civil Supplies
 Industry and Labour

Irrigation
 Supply and Rehabilitation
 Industry
 Tourism and Civil Aviation
 Education and Social Welfare
 Parliamentary Affairs
 Commerce
 Health and Family Welfare
 Energy
 Home Affairs
 Communications
 Defence
 Agriculture and Rural Reconstruction
 Railways
 Shipping and Transport
 Science and Technology and Electronics
 Petroleum, Chemicals and Fertilizers
 Labour
 Finance
 Agriculture and Rural Reconstruction
 Home Affairs and Parliamentary Affairs

Works and Housing
 Finance
 Information and Broadcasting
 Agriculture and Rural Reconstruction
 Railways and Parliamentary Affairs
 Civil Supplies
 Communications
 Labour
 Industry
 Supply and Rehabilitation

¹Appendix to Chapter 3. As on 10 August 1981.

²Independent charge.

MEMBERS OF PARLIAMENT¹RAJYA SABHA (COUNCIL OF STATES)²*Chairman* : M. Hidayatullah*Deputy Chairman* : Shyam Lal Yadav

Andhra Pradesh (18)

1. Syed Rahmat Ali
2. V. B. Raju
3. Vacant
4. Krishna Mohan Bhamidipati
5. V. C. Kesava Rao
6. Mohammad Rahamathulla
7. A. S. Chowdhari
8. K. L. N. Prasad
9. Palavalasa Rajasekharam
10. Smt. Roda Mistry
11. M. R. Krishna
12. G. Swamy Naik
13. Vacant
14. Ghouse Mohiuddin Sheikh
15. N. P. Chengalraya Naidu
16. Buddha Priya Maurya
17. Vacant
18. B. Satyanarayan Reddy

Assam (7)

19. Biswa Goswami
20. Bipinpal Das
21. Syed Abdul Malik
22. Bijoy Krishna Handique
23. Ajit Kumar Sharma
24. Robin Kakati
25. Dinesh Goswami

Bihar (22)

26. Ashwani Kumar
27. Smt. Aziza Imam
28. Ramchandra Bharadwaj
29. Syed Shahabuddin
30. Dharamchand Jain
31. Indradeep Sinha
32. Bhola Prasad
33. Bhola Paswan Shastri
34. Sitaram Kesri
35. Smt. Manorma Pandey
36. Ramanand Yadav
37. Bhishma Narain Singh
38. Smt. Pratibha Singh
39. Ram Bhagat Paswan

40. Yogendra Sharma

41. Mahendra Mohan Mishra

42. Ram Lakhan Prasad Gupta

43. A. P. Sharma

44. Dayanand Sahaya

45. Hukamdeo Narayan Yadav

46. J. K. P. N. Singh

47. Shiva Chandra Jha

Gujarat (11)

48. Yogendra Makwana

49. Lal K. Advani

50. Kumudben Manishanker Joshi.

51. Harisinh Bhagubava Mahida

52. Ibrahim Kalaniya

53. Pranab Kumar Mukherjee

54. Keshrisinh Mehta

55. Golandaz M. Husain

56. Piloo Mody

57. Manubhai Patel

58. Ghanshyambhai Oza

Haryana (5)

59. Sushil Chand Mohunta

60. Hari Singh Nalwa

61. Sujan Singh

62. Sultan Singh

63. Dr. Sarup Singh

Himachal Pradesh (3)

64. Roshan Lal

65. Smt. Usha Malhotra

66. Smt. Mohinder Kaur

Jammu and Kashmir (4)

67. Om Mehta

68. Sharief-ud-Din Sharif

69. Gulam Mohiud-Din Shawl

70. Tirath Ram Amla

Karnataka (12)

71. Smt. Monika Das

72. R. M. Desai

¹Appendix to Chapter 3.²As on 15 July 1981.

73. Mulka Govinda Reddy
74. Smt. Margaret Alva
75. B. Ibrahim
76. Maqsood Ali Khan
77. K. S. Malle Gowda
78. F. M. Khan
79. M. Maddanna
80. M. Basavaraju
81. Ramakrishna Hegde
82. Satchidananda

Kerala (9)

83. C. Haridas
84. K. C. Sabastian
85. O. J. Joseph
86. K. Chathunni Master
87. B. V. Abdulla Koya
88. T. Basheer
89. K. K. Madhavan
90. Pattiam Rajan
91. S. Kumaran

Madhya Pradesh (16)

92. Nand Kishore Bhatt
93. J. K. Jain
94. Shrikant Verma
95. Balram Das
96. Smt. Ratan Kumari
97. Smt. Maimoona Sultan
98. Pyarelal Khandelwal
99. Gurudev Gupta
100. Sawain Singh Sisodia
101. Pravin Kumar Prajapati
102. Baleswar Dayal
103. Ladli Mohan Nigam
104. Smt. Vijaya Raje Scindia
105. Dr. Bhai Mahavir
106. Bhagatram Manhar
107. Rajendra Singh Ishwar Singh

Maharashtra (19)

108. Jagannath Sitaram Akarte
109. S. W. Dhabe
110. Murlidhar Chandrakant Bhandare
111. S. K. Vaishampayan
112. Prof. N. M. Kamble
113. Smt. Premilabai Dajisaheb Chavan
114. Smt. Saroj Khaparde
115. Dr. Shanti G. Patel
116. Smt. Sushila Shankar Adivarekar
117. Dr. Joseph Leon D'Souza
118. Dr. (Smt.) Najma Heptulla

119. G. R. Mahaisekar
120. A. G. Kulkarni
121. B. D. Khobragade
122. Dr. Rafiq Zakaria
123. N. K. P. Salve
124. Ganapat Hiralal Bhagat
125. Sudashiv Bagaitkar
126. Bapuraoji Marotraoji Deshmukh

Manipur (1)

127. Ng. Tompok Singh

Meghalaya (1)

128. Alexander Warjri

Nagaland (1)

129. T. Aliba Imti

Orissa (10)

130. Patitpaban Pradhan
131. Narasingha Prasad Nanda
132. Santosh Kumar Sahu
133. Akshay Panda
134. Jagdish Jani
135. Shyam Sunder Mohapatra
136. Dhaneshwar Majhi
137. B. C. Pattanayak
138. Surendra Mohanty
139. Harekrushna Mallick

Punjab (7)

140. Harvender Singh Hanspal
141. Smt. Amarjit Kaur
142. Sat Paul Mittal
143. Jagdev Singh Talwandi
144. Gurcharan Singh Tohra
145. Harkishan Singh Surjeet
146. Smt. Rajender Kaur

Rajasthan (10)

147. Dhuleshwar Meena
148. Smt. Usha Khan
149. Swami Dinesh Chandra
150. Mohammed Usman Arief
151. Ram Niwas Mirdha
152. Jaswant Singh
153. Molana Asrar-ul Haq
154. Hari Shankar Bhatnara
155. Bhim Raj
156. R. R. Morarka

- Sikkim (1)
157. Leonard Solomon Saring
- Tamil Nadu (18)
158. U. R. Krishnan
159. Murasoli Maran
160. L. Ganesan
161. M. Kalyanasundaram
162. P. Ramamurti
163. R. Mohanarangam
164. A. P. Janardhanam
165. G. K. Mooppanar
166. R. Ramakrishnan
167. Smt. Noorjehan Razack
168. D. Heerachand
169. M. S. Ramachandram
170. P. Anbalagan
171. V. Gopalsamy
172. Dr. (Smt.) Sathiyavani Muthu
173. Era Sezhiyan
174. M. Moses
175. V. Venka
- Tripura (1)
176. Smt. Ila Bhattacharya
- Uttar Pradesh (34)
177. Dr. M. M. S. Siddhu
178. Krishna Nand Joshi
179. Kalpnath Rai
180. Dharmavir
181. Shyam Lal Yadav
182. Piare Lall Kuree *ur*f Piare Lall Talib Unnavi
183. Suresh Narain Mulla
184. Satya Pal Malik
185. Asad Madani
186. Nar Singh Narain Pandey
187. Nageshwar Prasad Shahi
188. Prakash Mehrotra
189. Bhagwan Din
190. Smt. Hamida Habibullah
191. Dinesh Singh
192. Sudhakar Pandey
193. Chaudhary Ram Sewak
194. Syed Sibte Razi
195. Abdul Rehman Sheikh
196. Kalraj Mishra
197. K. C. Pant
198. Jagdish Prasad Mathur
199. G. C. Bhattacharya
200. Rameshwar Singh
201. Lakhani Singh
202. Surendra Mohan
203. M. R. Shervani
204. Narendra Singh
205. Dr. Rudra Pratap Singh
206. Khurshed Alam Khan
207. Bhanu Pratap Singh
208. Sunder Singh Bhandari
209. P. N. Sukul
210. Syed Ahmed Hashmi
- West Bengal (16)
211. Prasenjit Barman
212. Shankar Prasad Mitra
213. Sangdopal Lepcha
214. Phanindra Nath Hansda
215. Bhupesh Gupta
216. Durpen Ghosh
217. Arabinde Ghosh
218. Smt. Purabi Mukhopaddhay
219. Sankar Ghose
220. Deben Burman
221. Santosh Mitra
222. Makhan Pal
223. Amarprosad Chakraborty
224. Smt. Kanak Mukherjee
225. Syed Shahedullah
226. Prof. Sourendra Bhattacharjee
- Arunachal Pradesh (1)
227. Ratan Tama
- Delhi (3)
228. Vacant
229. Jagannathrao Joshi
230. Charanjit Chanana
- Mizoram (1)
231. Lalsawia
- Pondicherry (1)
232. V. P. Munusamy
- Nominated by the President (12)
233. Prof. Rasheeduddin Khan
234. B. N. Banerjee
235. Bishambhar Nath Pande
236. Dr. Lokesh Chandra
237. Smt. Maragatham Chandrasekhar
238. Khushwant Singh
239. Scato Swu
240. Vacant
241. Smt. Fathema Ismail
242. Dr. Malcolm S. Adiseshiah
243. Bhagwati Charan Varma
244. Pandurang Dbaramaji Jadhav

LOK SABHA (HOUSE OF THE PEOPLE)

(As on 15 July, 1981)

Speaker : Bal Ram Jakhar

Deputy Speaker : G. Lakshmanan

S. No.	Constituency	Name of the member	Party ¹
Andhra Pradesh (42)			
1.	Adilabad	G. Narimha Reddy	Cong. (I)
2.	Amalapuram (R)	Kusuma Krishna Murthy	Cong. (I)
3.	Anakapalli	S. R. A. S. Appalanaidu	Cong. (I)
4.	Anantpur	Darur Pullaiah	Cong. (I)
5.	Bapatla	Ankineedu Prasad Rao	Cong. (I)
6.	Bhadrachalam (R)	Smt. B. Radhabai Ananda Rao	Cong. (I)
7.	Bobbili	P. V. G. Raju	Cong. (I)
8.	Chittoor	P. Rajagopal Naidu	Cong. (I)
9.	Cuddapah	K. Obul Reddy	Cong. (I)
10.	Eluru	Chitturi Subba Rao Chowdary	Cong. (I)
11.	Guntur	N. G. Ranga	Cong. (I)
12.	Hanamkonda	P. V. Narasimha Rao	Cong. (I)
13.	Hindupur	P. Bayapa Reddy	Cong. (I)
14.	Hyderabad	K. S. Narayana	Cong. (I)
15.	Kakinada	M. S. Sanjeevi Rao	Cong. (I)
16.	Karimnagar	M. Satyanarayana Rao	Cong. (I)
17.	Khammam	Jalagam Kondala Rao	Cong. (I)
18.	Kurnool	K. Vijaya Bhaskara Reddy	Cong. (I)
19.	Machilipatnam	M. Ankineedu	Cong. (I)
20.	Mahbubnagar	Mallikarjun	Cong. (I)
21.	Medak	Smt. Indira Gandhi	Cong. (I)
22.	Miryalguda	G. S. Reddy	Cong. (I)
23.	Nagar Kurnool (R)	Anantha Ramulu Mallu	Cong. (I)
24.	Nalgonda	T. Damodar Reddy	Cong. (I)
25.	Nandyal	P. Venkatasubbaiah	Cong. (I)
26.	Narasapur	Alluri Subash Chandra Bose	Cong. (I)
27.	Narasaraopet	K. Brahmananda Reddy	Cong. (I)
28.	Nellore (R)	D. Kamakshaiah	Cong. (I)
29.	Nizamabad	M. Ramgopal Reddy	Cong. (I)
30.	Ongole	P. Venkata Reddy	Cong. (I)
31.	Parvathipuram (R)	V. Kishore Chandra S. Deo	Cong. (U)
32.	Peddapalli (R)	K. Rajamallu	Cong. (I)
33.	Rajahmundry	S. B. P. Pattabhi Rama Rao	Cong. (I)
34.	Rajampet	P. Parthasarathy	Cong. (I)
35.	Secunderabad	P. Shiv Shankar	Cong. (I)

¹The abbreviations used are : Congress Party (I) [Cong. (I)], Janata Party-S (C) [Janata-S (C)], Communist Party of India (Marxist) [CPI (M)], Dravida Munnetra Kazhagam (DMK), Bharatiya Janata Party (BJP), Congress Party (U) [Cong. (U)], Janata Party (Janata), Communist Party of India (CPI), Democratic Socialist Front (DSF), Revolutionary Socialist Party (RSP), Janata Party-S (R) [Janata-S (R)], Forward Bloc (FB), Muslim League (ML), Jammu & Kashmir National Conference (NC), All India Anna Dravida Munnetra Kazhagam (AIADMK), Unattached (UA), Reserved seats (R).

S. No.	Constituency	Name of the member	Party
36.	Siddipet (R)	Nandi Yellaiah	Cong. (I)
37.	Srikakulam	Boddepalli Rajagopala Rao	Cong. (I)
38.	Tenali	M. Nageswararao	Cong. (I)
39.	Tirupathi (R)	Pasala Penchalaiah	Cong. (I)
40.	Vijayawada	Smt. Chennupati Vidya	Cong. (I)
41.	Visakhapatnam	K. A. Swami	Cong. (I)
42.	Warrangal	Kamaluddin Ahmed	Cong. (I)
Assam (14)			
43.	Autonomous Districts(R)	Vacant	
44.	Barpeta		
45.	Dhubri		
46.	Dibrugarh		
47.	Gauhati		
48.	Jorhat		
49.	Kaliabor		
50.	Karimganj (R)	Nihar Ranjan Laskar	Cong. (I)
51.	Kokrajhar (R)	Vacant	
52.	Lakhimpur		
53.	Mangaldoi		
54.	Nowgong		
55.	Silchar	Santosh Mohan Dev	Cong. (I)
56.	Tezpur	Vacant	
Bihar (54)			
57.	Araria (R)	D. L. Baitha	Cong. (I)
58.	Arrah	Chandradeo Prasad Verma	Janata-S (C)
59.	Aurangabad	Satyendra Narain Sinha	Janata
60.	Bagaha (R)	Bhola Raut	Cong. (I)
61.	Balia	Surya Narayan Singh	CPI
62.	Banka	Chandra Shekhar Singh	Cong. (I)
63.	Barh	Dharam Bir Sinha	Cong. (U)
64.	Begusarai	Smt. Krishna Sahi	Cong. (I)
65.	Bettiah	Kedar Pandey	Cong. (I)
66.	Bhagalpur	Bhagwat Jha Azad	Cong. (I)
67.	Bikramganj	Tapeshwar Singh	Cong. (I)
68.	Buxar	Prof. K. K. Tewari	Cong. (I)
69.	Chapra	Prof. Satya Deo Sinha	Cong. (I)
70.	Chatra	Ranjit Singh	Cong. (I)
71.	Darbhanga	Hari Nath Mishra	Cong. (I)
72.	Dhanbad	A. K. Roy	UA
73.	Dumka (R)	Shibu Soren	UA
74.	Gaya (R)	Ram Swarup Ram	Cong. (I)
75.	Giridih	Bindeshwari Dubey	Cong. (I)
76.	Godda	Saminuddin	Cong. (I)
77.	Gopalganj	Nagina Rai	Cong. (I)
78.	Hajipur (R)	Ram Vilas Paswan	Janata-S (C)
79.	Hazaribagh	Dr. B. N. Singh	Janata
80.	Jamshedpur	R. P. Sarangi	BJP
81.	Jahanabad	Mahendra Prasad	Cong. (I)
82.	Jhanjharpur	Dhanik Lal Mandal	Janata-S (C)
83.	Katihar	Tariq Anwar	Cong. (I)
84.	Khagaria	Satish Prasad Singh	Cong. (I)

S. No.	Constituency	Name of the member	Party
85.	Khunti (R)	N. E. Horo	UA
86.	Kishanganj	Jamilur Rehman	Cong. (I)
87.	Koderma	R. L. P. Verma	BJP
88.	Lohardaga (R)	Kartik Oraon	Cong. (I)
89.	Madhepura	R. P. Yadav	Cong. (U)
90.	Madhubani	Bhogendra Jha	CPI
91.	Maharajganj	Krishan Pratap Singh	Cong. (I)
92.	Monghyr	D. P. Yadav	Cong. (U)
93.	Motihari	K. M. Madhukar	CPI
94.	Muzaffarpur	George Fernandes	Janata-S (C)
95.	Nalanda	Vijay Kumar Yadav	CPI
96.	Nawada (R)	Kunwar Ram	Cong. (I)
97.	Palamau (R)	Km. Kamla Kumari	Cong. (I)
98.	Patna	Ramavtar Shastri	CPI
99.	Purnea	Smt. Madhuri Singh	Cong. (I)
100.	Rajmahal (R)	Seth Hembram	Cong. (I)
101.	Ranchi	Shiv Prasad Sahu	Cong. (I)
102.	Rosera (R)	Baleshwar Ram	Cong. (I)
103.	Saharsa	Kamal Nath Jha	Cong. (I)
104.	Samastipur	Prof. Ajit Kumar Mehta	Janata-S (C)
105.	Sasaram (R)	Jagjivan Ram	Cong. (U)
106.	Sheohar	Smt. Ramdulari Sinha	Cong. (I)
107.	Singhbhum (R)	Bagun Sumbrui	Cong. (I)
108.	Sitamarhi	B. R. Bhagat	Cong. (U)
109.	Siwan	Mohd. Yusuf	Cong. (I)
110.	Vaishali	Smt. Kishori Sinha	Janata
Gujarat (26)			
111.	Ahmedabad	Maganbhai Barot	Cong. (I)
112.	Amreli	Navin Ravani	Cong. (I)
113.	Anand	Ishvarbhai Khodabhai Chavda	Cong. (I)
114.	Banaskantha	Bhervadan K. Gadhavi	Cong. (I)
115.	Baroda	R. P. Gaekwad	Cong. (I)
116.	Bhavnagar	G. B. Gohil	Cong. (I)
117.	Broach	Ahmed Mohammed Patel	Cong. (I)
118.	Bulsar (R)	Uttambhai H. Patel	Cong. (I)
119.	Chhota Udaipur (R)	Amarsinh Rathawa	Cong. (I)
120.	Dhandhuka (R)	Narsinh Makwana	Cong. (I)
121.	Dohad (R)	Somjibhai Damor	Cong. (I)
122.	Gandhinagar	Amrit Patel	Cong. (I)
123.	Godhra	Jaideep Singh	Cong. (I)
124.	Jamnagar	Daulatsinhji Jadeja	Cong. (I)
125.	Junagadh	Mohanlal Patel	Cong. (I)
126.	Kaira	Ajitsinh Dabhi	Cong. (I)
127.	Kapadwanj	Natvarsinh Solanki	Cong. (I)
128.	Kutch	Dr. Mahipatray M. Mehta	Cong. (I)
129.	Mandvi (R)	Chhitubhai Gamit	Cong. (I)
130.	Mehsana	Motibhai R. Chaudhari	Janata
131.	Patan (R)	Hiralal R. Parmar	Cong. (I)
132.	Porbandar	Maldevji M. Obedra	Cong. (I)
133.	Rajkot	Ramjibhai Mavani	Cong. (I)
134.	Sabarkantha	Shantubhai Pate	Cong. (I)

S. No.	Constituency	Name of the member	Party
135.	Surat	C. D. Patel	Cong. (I)
136.	Surendranagar	Digvijay Sinh	Cong. (I)
Haryana (10)			
137.	Ambala	Suraj Bhan	BJP
138.	Bhiwani	Bansi Lal	Cong. (I)
139.	Faridabad	Tayyab Hussain	Cong. (I)
140.	Hissar	Mani Ram Bagri	Janata-S (R)
141.	Karnal	Chiranji Lal	Cong. (I)
142.	Kurukshetra	Manohar Lal Saini	Janata-S (C)
143.	Mahendragarh	Rao Birendra Singh	Cong. (I)
144.	Rohtak	Swami Indervesh	Janata-S (C)
145.	Sirsa (R)	Dalbir Singh	Cong. (I)
146.	Sonepat	Devi Lal	Janata-S (C)
Himachal Pradesh (4)			
147.	Hamirpur	Prof. Narain Chand Parashar	Cong. (I)
148.	Kangra	Vikram Mahajan	Cong. (I)
149.	Mandi	Virbhadra Singh	Cong. (I)
150.	Simla (R)	Krishan Dutt Sultanpuri	Cong. (I)
Jammu and Kashmir (6)			
151.	Anantnag	Ghulam Rasool Kochak	NC
152.	Baramulla	Mubarak Shah	NC
153.	Jammu	G. L. Dogra	Cong. (I)
154.	Ladakh	P. Namgyal	Cong. (I)
155.	Srinagar	Dr. Farooq Abdullah	NC
156.	Udhampur	Dr. Karan Singh	UA
Karnataka (28)			
157.	Bagalkot	Veerendra Patil	Cong. (I)
158.	Bangalore North	C. K. Jaffer Sharief	Cong. (I)
159.	Bangalore South	T. R. Shamanna	Janata
160.	Belgaum	S. B. Sidnal	Cong. (I)
161.	Bellary	R. Y. Ghorpade	Cong. (I)
162.	Bidar (R)	Narsing Suryawanshi	Cong. (I)
163.	Bijapur	K. B. Choudhari	Cong. (I)
164.	Chamarajanagar (R)	V. Sreenivasa Prasad	Cong. (I)
165.	Chikballapur	S. N. Prasan Kumar	Cong. (I)
166.	Chikkodi (R)	B. Shankaranand	Cong. (I)
167.	Chikmagalur	D. M. Putte Gowda	Cong. (I)
168.	Chitradurga	K. Mallanna	Cong. (I)
169.	Devangere	T. V. Chandrashekhara	Cong. (I)
170.	Dharwar North	D. K. Naikar	Cong. (I)
171.	Dharwar South	F. H. Mohsin	Cong. (I)
172.	Gulbarga	C. M. Stephen	Cong. (I)
173.	Hassan	H. N. Gowda	Cong. (I)
174.	Kanakapura	M. V. Chandrashekara Murthy	Cong. (I)
175.	Kanara	G. Devaraya Naik	Cong. (I)
176.	Kolar (R)	G. Y. Krishnan	Cong. (I)
177.	Kappal	H. G. Ramulu	Cong. (I)
178.	Mandya	S. M. Krishna	Cong. (I)
179.	Mangalore	Janardhana Poojary	Cong. (I)

S. No.	Constituency	Name of the Member	Party
180.	Mysore	M. Rajeshekhara Murthy	Cong. (I)
181.	Raichur	B. V. Desai	Cong. (I)
182.	Shimoga	S. T. Quadri	Cong. (I)
183.	Tumkur	K. Lakkappa	Cong. (I)
184.	Udupi	Oskar Fernandes	Cong. (I)
Kerala (20)			
185.	Adoor (R)	P. K. Kodiyan	CPI
186.	Alleppey	Smt. Suseela Gopalan	CPI (M)
187.	Badagara	K. P. Unnikrishnan	Cong. (U)
188.	Calicut	E. K. Imbichi Bava	CPI (M)
189.	Cannanore	K. Kunhambu	Cong. (U)
190.	Chirajinkil	A. A. Rahim	Cong. (I)
191.	Ernakulam	Xavier Arakal	Cong. (I)
192.	Idukki	M. M. Lawrence	CPI (M)
193.	Kasaragod	M. Ramanna Rao	CPI (M)
194.	Kottayam	Skariah Thomas	UA
195.	Manjeri	Ebrahim Sulaiman Sait	ML
196.	Mavelikara	Prof. P. J. Kurien	Cong. (U)
197.	Mukundapuram	E. Balanandan	CPI (M)
198.	Muvattupuzha	George Joseph Mundackal	UA
199.	Ottapalam (R)	A. K. Balan	CPI (M)
200.	Palghat	V. S. Vijaya Raghavan	Cong. (I)
201.	Ponnani	G. M. Banatwalla	ML
202.	Quilon	B. K. Nair	Cong. (I)
203.	Trichur	K. A. Rajan	CPI
204.	Trivandrum	A. Neelalchithadasan Nadar	DSF
Madhya Pradesh (40)			
205.	Balaghat	Nand Kishore Sharma	Cong. (I)
206.	Bastar (R)	Laxman Karma	Cong. (I)
207.	Betul	Ghufran Azam	Cong. (I)
208.	Bhind	K. C. Sharma	Cong. (I)
209.	Bhopal	Dr. Shankar Dayal Sharma	Cong. (I)
210.	Bilaspur (R)	Godil Prasad Anuragi	Cong. (I)
211.	Chhindwara	Kamal Nath	Cong. (I)
212.	Damoh	Prabhunarain Tandon	Cong. (I)
213.	Dhar (R)	Fatehbhan Singh Chouhan	Cong. (I)
214.	Durg	Chandulal Chandrakar	Cong. (I)
215.	Guna	Madhavrao Scindia	Cong. (I)
216.	Gwalior	N. K. Shejwalkar	BJP
217.	Hoshangabad	Rameshwar Neekhara	Cong. (I)
218.	Indore	Prakash Chand Sethi	Cong. (I)
219.	Jabalpur	Munder Sharma	Cong. (I)
220.	Janjgir	R. G. Tiwari	Cong. (I)
221.	Jhabua (R)	Dileep Singh Bhuria	Cong. (I)
222.	Kanker (R)	Arvind Netam	Cong. (I)
223.	Khajuraho	Smt. Vidyavati Chaturvedi	Cong. (I)
224.	Khandwa	Shivkumar Singh	Cong. (I)
225.	Khargone	Subhash Yadav	Cong. (I)
226.	Mahasamund	Vidya Charan Shukla	Cong. (I)
227.	Mandla (R)	Chhotelal Uike	Cong. (I)
228.	Mandsaur	B. R. Nahata	Cong. (I)
229.	Morena (R)	Babu Lal Solanki	Cong. (I)
230.	Raigarh (R)	Kumari Pushpa Devi Singh	Cong. (I)

S. No.	Constituency	Name of the member	Party
231.	Raipur	Keyur Bhushan	Cong. (I)
232.	Rajgarh	Dr. Vasant Kumar Pandit	BJP
233.	Rajnandgaon	Shivendra Bahadur Singh	Cong. (I)
234.	Rewa	Martand Singh	UA
235.	Sagar (R)	Smt. Sahodrabai Rai	Cong. (I)
236.	Sarangarh (R)	Parasram Bharadwaj	Cong. (I)
237.	Satna	Gulsher Ahmed	Cong. (I)
238.	Seoni	Gargi Shankar Mishra	Cong. (I)
239.	Shahdol (R)	Dalbir Singh	Cong. (I)
240.	Shajapur (R)	Phool Chand Varma	BJP
241.	Sidhi (R)	Motilal Singh	Cong. (I)
242.	Surguja (R)	Chakradhari Singh	Cong. (I)
243.	Ujjain (R)	Satyanarayan Jatiya	BJP
244.	Vidisha	Pratap Bhanu Sharma	Cong. (I)
Maharashtra (48)			
245.	Ahmednagar	Chandrabhan Athare Patil	Cong. (I)
246.	Akola	Madhusudan Vairale	Cong. (I)
247.	Amravati	Smt. Usha Prakash Choudhari	Cong. (I)
248.	Aurangabad	Qazi Saleam	Cong. (I)
249.	Baramati	Shankarrao Patil	Cong. (I)
250.	Bhandara	Keshorao Pardhi	Cong. (I)
251.	Bhir	Smt. Kesharbai Kshirsagar	Cong. (I)
252.	Bombay North	Ravindra Varma	Janata
253.	Bombay North Central	Smt. Pramila Dandavate	Janata
254.	Bombay North East	Dr. Subrbmaniam Swamy	Janata
255.	Bombay North West	Ram Jethmalani	BJP
256.	Bombay South	Ratansinh Rajda	Janata
257.	Bombay South Central	R. R. Bhole	Cong. (I)
258.	Buldhana (R)	Balkrishna Wasnik	Cong. (I)
259.	Chandrapur	Shantaram Potdukhe	Cong. (I)
260.	Chimur	Vilas Muttemwar	Cong. (I)
261.	Dahanu (R)	D. B. Shingda	Cong. (I)
262.	Dhule (R)	Reshma Motiram Bhoys	Cong. (I)
263.	Erandel	Vijay N. Patil	Cong. (I)
264.	Hingoli	Uttam Rathod	Cong. (I)
265.	Ichalkaranji	R. S. Mane	Cong. (I)
266.	Jalgaon	Y. S. Mahajan	Cong. (I)
267.	Jalna	Balasaheb Pawar	Cong. (I)
268.	Karad	Yeshwantrao Mohite	Cong. (I)
269.	Khed	Ramkrishna More	Cong. (I)
270.	Kulaba	A. T. Patil	Cong. (I)
271.	Kolhapur	Udaysingrao Gaikwad	Cong. (I)
272.	Kopergaon	Balasaheb Vikhe Patil	Cong. (I)
273.	Latur	Shivraj V. Patil	Cong. (I)
274.	Malegaon (R)	Z. M. Kahandole	Cong. (I)
275.	Nagpur	Bapurao Jambuwant Dhote	Cong. (I)
276.	Nanded	S. B. Chavan	Cong. (I)
277.	Nandurbar (R)	Surup Singh Hirya Naik	Cong. (I)
278.	Nasik	Dr. Pratap Wagh	Cong. (I)
279.	Osmanabad (R)	T. M. Sawant	Cong. (I)
280.	Pandharpur (R)	Bhausaheb Thorat	Cong. (I)
281.	Parbhani	R. N. Yadav	Cong. (I)

S. No.	Constituency	Name of the member	Party
282.	Pune	V. N. Gadgil	Cong. (I)
283.	Rajapur	Prof. Madhu Dandavate	Janata
284.	Ramtek	J. C. Barve	Cong. (I)
285.	Ratnagiri	Bapusaheb Parulekar	Janata
286.	Sangli	Vasantrao Patil	Cong. (I)
287.	Satara	Yeshwantrao Chavan	Cong. (U)
288.	Sholapur	Gangadhar S. Kuchan	Cong. (I)
289.	Thane	R. K. Mhalgi	BJP
290.	Wardha	Vasant Sathe	Cong. (I)
291.	Washim	Gulam Nabi Azad	Cong. (I)
292.	Yeotmal	Uttamrao Patil	Cong. (I)
Manipur (2)			
293.	Inner Manipur	Ngangom Mohendra	CPI
294.	Outer Manipur (R)	N. Gouzagin	Cong. (I)
Meghalaya (2)			
295.	Shillong	Vacant	
296.	Tura	P. A. Sangma	Cong. (I)
Nagaland (1)			
297.	Nagaland	Chingwang Konyak	Cong. (I)
Orissa (21)			
298.	Aska	Rama Chandra Rath	Cong. (I)
299.	Balasore	Chintamani Jena	Cong. (I)
300.	Berhampur	Jagannath Rao	Cong. (I)
301.	Bhadrak (R)	Arjun Sethi	Cong. (I)
302.	Bhubaneswar	Chintamani Panigrahi	Cong. (I)
303.	Bolangir	Nityananda Misra	Cong. (I)
304.	Cuttack	Smt. Jayanti Patnaik	Cong. (I)
305.	Deogarh	Narayan Sahu	Cong. (I)
306.	Dhenkanal	K. P. Singh Deo	Cong. (I)
307.	Jagatsinghpur	Lakshman Mallick	Cong. (I)
308.	Jajpur (R)	A. C. Das	Cong. (I)
309.	Kalahandi	Rasa Behari Behra	Cong. (I)
310.	Kendrapara	Biju Patnaik	Janata-S (C)
311.	Keonjhar (R)	Harihar Soren	Cong. (I)
312.	Koraput (R)	Giridhar Gomango	Cong. (I)
313.	Mayurbhanj (R)	Manmohan Tudu	Cong. (I)
314.	Nawrangpur (R)	K. Pradhani	Cong. (I)
315.	Phulbani (R)	Mrutyunjaya Nayak	Cong. (I)
316.	Puri	Brajamohan Mohanty	Cong. (I)
317.	Sambalpur	Dr. Krupa Sindhu Bhoi	Cong. (I)
318.	Sundargarh (R)	Christopher Ekka	Cong. (I)
Punjab (13)			
319.	Amritsar	R. L. Bhatia	Cong. (I)
320.	Bhatinda (R)	Hakam Singh	Cong. (I)
321.	Faridkot	Smt. Gurbinder Kaur	Cong. (I)
322.	Ferozepur	Bal Ram Jakhar ¹	
323.	Gurdaspur	Smt. Sukhbans Kaur	Cong. (I)
324.	Hoshiarpur	Zail Singh	Cong. (I)

He is Speaker of Lok Sabha.

S. No.	Constituency	Name of the member	Party
325.	Jullundur	R. S. Sparrow	Cong. (I)
326.	Ludhiana	Devinder Singh Garcha	Cong. (I)
327.	Patiala	Amarender Singh	Cong. (I)
328.	Phillaur (R)	Sunder Singh	Cong. (I)
329.	Ropar (R)	Buta Singh	Cong. (I)
330.	Sangrur	G. S. Nihalsinghwal	Cong. (I)
331.	Tarn Taran	L. S. Tur	UA
Rajasthan (25)			
332.	Ajmer	Acharya Bhagwan Dev	Cong. (I)
333.	Alwar	Ram Singh Yadav	Cong. (I)
334.	Banswara (R)	Bheekhabhai	Cong. (I)
335.	Barmer	Virdhi Chander Jain	Cong. (I)
336.	Bayana (R)	Vacant	
337.	Bharatpur	Rajesh Pilot	Cong. (I)
338.	Bhilwara	Girdhari Lal Vyas	Cong. (I)
339.	Bikaner	Manphool Singh Chaudhary	Cong. (I)
340.	Chittorgarh	Prof. Nirmala Kumari Shaktawat	Cong. (I)
341.	Churu	Daulat Ram Saran	Janata-S (C)
342.	Dausa	Nawal Kishore Sharma	Cong. (I)
343.	Ganganagar (R)	Bir Bal	Cong. (I)
344.	Jaipur	Satish Agarwal	BJP
345.	Jalore (R)	Virda Ram Phulwariya	Cong. (I)
346.	Jhalawar	Chaturbhuj	BJP
347.	Jhunjhunu	Bhim Singh	Janata
348.	Jodhpur	Ashok Gehlot	Cong. (I)
349.	Kota	Krishna Kumar Goyal	BJP
350.	Nagaur	Nathu Ram Mirdha	Cong. (U)
351.	Pali	Mool Chand Daga	Cong. (I)
352.	Salumber (R)	Jai Narayan Roat	Cong. (I)
353.	Sawai Madhopur (R)	Ram Kumar Meena	Cong. (I)
354.	Sikar	Kumbha Ram Arya	Janata-S (C)
355.	Tonk (R)	Banwari Lal	Cong. (I)
356.	Udaipur	Mohanlal Sukhadia	Cong. (I)
Sikkim (1)			
357.	Sikkim	P. M. Subba	UA
Tamil Nadu (39)			
358.	Arkonam	A. M. Velu	Cong. (I)
359.	Chingalpattu	Era Anbarasu	Cong. (I)
360.	Chidambaram (R)	Dr. V. Kulandaivelu	DMK
361.	Coimbatore	Era Mohan	DMK
362.	Cuddalore	R. Muthu Kumaran	Cong. (I)
363.	Dharmapuri	K. Arjunan	DMK
364.	Dindigul	K. Maya Thevar	DMK
365.	Gobichettipalayam	C. Chinnaswamy	AIADMK
366.	Karur	S. A. Dorai Sebastian	Cong. (I)
367.	Krishnagiri	K. Ramamurthy	Cong. (I)
368.	Madras Central	Dr. A. Kalanidhi	DMK
369.	Madras North	G. Lakshamanan	DMK
370.	Madras South	R. Venkataraman	Cong. (I)
371.	Madurai	A. H. Subburaman	Cong. (I)

S. No.	Constituency	Name of the member	Party
372.	Mayuram	N. Kudanthai Ramalingam	Cong. (I)
373.	Nagapattinam (R)	Thazhai M. Karunanithi	DMK
374.	Nagercoil	N. Dennis	Cong. (I)
375.	Nilgiris	R. Prabhu	Cong. (I)
376.	Palani	A. Senapathi Gounder	Cong. (I)
377.	Perambalur (R)	K. B. S. Mani	Cong. (I)
378.	Periyakulam	Cumbum N. Natarajan	DMK
379.	Pollachi (R)	C. T. Dhandapani	DMK
380.	Pudukottai	V. N. Swaminathan	Cong. (I)
381.	Ramanathapuram	M. S. K. Sathiyendran	DMK
382.	Rasipuram (R)	B. Devarajan	Cong. (I)
383.	Salem	C. Palaniappan	DMK
384.	Sivaganga	R. V. Swaminathan	Cong. (I)
385.	Sivakasi	N. Soundararajan	AIADMK
386.	Sriperumbudur (R)	T. Nagaratnam	DMK
387.	Tenkasi (R)	M. Arunachalam	Cong. (I)
388.	Thanjavur	S. Singaravadiyal	Cong. (I)
389.	Tindivanam	S. S. Ramaswamy Padayachi	Cong. (I)
390.	Tiruchendur	K. T. Kosalram	Cong. (I)
391.	Tiruchengode	M. Kandaswamy	DMK
392.	Tiruchirapalli	N. Selvaraju	DMK
393.	Tirunelveli	D. S. A. Sivaprakasam	DMK
394.	Tiruppattur	S. Murugain	DMK
395.	Vandavasi	D. Pattuswamy	Cong. (I)
396.	Vellore	Abdul Samad	ML
Tripura (2)			
397.	Tripura East (R)	Raju Ban Riyan	CPI (M)
398.	Tripura West	Ajoy Biswas	CPI (M)
Uttar Pradesh (85)			
399.	Agra	Nihal Singh Jain	Cong. (I)
400.	Akbarpur (R)	Ram Awadh	Janata-S (C)
401.	Aligarh	Smt. Indra Kumari	Janata-S (C)
402.	Allahabad	K. P. Tiwari	Cong. (I)
403.	Almora	Harish Chandra Singh Rawat	Cong. (I)
404.	Amethi	Rajiv Gandhi	Cong. (I)
405.	Amroha	Chander Pal Singh	Janata-S (C)
406.	Aonla	Jaipal Singh Kashyap	Janata-S (R)
407.	Azamgarh	Chandrajit Yadav	Janata-S (C)
408.	Budaun	Mohd. Asrar Ahmad	Cong. (I)
409.	Baghpat	Charan Singh	Janata-S (C)
410.	Bahraich	Maulana Syed Muzaffar Hussain	Cong. (I)
411.	Ballia	Chandra Shekhar	Janata-S (C)
412.	Balrampur	Chandra Bhal Mani Tewari	Cong. (I)
413.	Banda	Ram Nath Dubey	Cong. (I)
414.	Bansgaon (R)	Mahabir Prasad	Cong. (I)
415.	Bara Banki (R)	Ram Kinkar	Janata-S (C)
416.	Bareilly	Begum Abida Ahmed	Cong. (I)
417.	Basti (R)	Kalpna Sonkar	Cong. (I)
418.	Bijnor (R)	Manga Ram Premi	Janata-S (C)
419.	Bilhaur	R. N. Tripathi	Cong. (I)
420.	Bulandshahr	Mahmood Hassan Khan	Janata-S (C)

S. No.	Constituency	Name of the member	Party
421.	Chail (R)	R. N. Rakesh	DSF
422.	Chandauli	Nihal Singh	Cong. (U)
423.	Deoria	Ramayan Rai	Cong. (I)
424.	Domariaganj	Jalil Abbasi	Cong. (I)
425.	Etah	M. M. A. Khan	Cong. (I)
426.	Etawah	Ram Singh Shakya	Janata-S (C)
427.	Faizabad	Jai Ram Varma	Cong. (I)
428.	Farrukhabad	Daya Ram Shakya	BJP
429.	Fatehpur	Hari Krishna Shastri	Cong. (I)
430.	Firozabad (R)	Rajesh Kumar Singh	Janata-S (C)
431.	Garhwal	Vacant	
432.	Ghatampur (R)	Ashkaran Sankhwar	Cong. (I)
433.	Ghazipur	Zainul Basher	Cong. (I)
434.	Ghosi	Jharkhande Rai	CPI
435.	Gonda	Anand Singh	Cong. (I)
436.	Gorakhpur	Harikesh Bahadur	DSF
437.	Hamirpur	Doongar Singh	Cong. (I)
438.	Hapur	Anwar Ahmad	Cong. (I)
439.	Hardoi (R)	Manni Lal	Cong. (I)
440.	Hardwar (R)	Jagpal Singh	Janata-S (C)
441.	Hathras (R)	Chandrapal Shailani	Cong. (I)
442.	Jalaun (R)	Nathuram Shakyawar	Cong. (I)
443.	Jalesar	Chaudhari Multan Singh	Janata-S (C)
444.	Jaunpur	Dr. A. U. Azmi	Janata-S (C)
445.	Jhansi	Vishvanath Sharma	DSF
446.	Kairana	Smt. Gayatri Devi	Janata-S (C)
447.	Kaiserganj	Rana Vir Singh	Cong. (I)
448.	Kannauj	Chhotey Singh Yadav	Janata-S (C)
449.	Kanpur	Arif Mohamad Khan	Cong. (I)
450.	Khalilabad	Krishna Chandra Pandey	Cong. (I)
451.	Kheri	Smt. Usha Verma	Cong. (I)
452.	Khurja (R)	Trilok Chand	Janata-S (R)
453.	Lalganj (R)	Chhangur Ram	Janata-S (C)
454.	Lucknow	Smt. Sheila Kaul	Cong. (I)
455.	Machhlishahar	Sheo Sharan Verma	Janata-S (C)
456.	Maharajganj	Ashfaq Husain	DSF
457.	Mainpuri	Raghunath Singh Verma	Janata-S (C)
458.	Mathura	Digambar Singh	Janata-S (C)
459.	Meerut	Smt. Mohsina Kidwai	Cong. (I)
460.	Mirzapur	Vacant	
461.	Misrikh (R)	Ram Lal Rahi	DSF
462.	Mohan Lal Ganj (R)	Smt. Kailash Pati	Cong. (I)
463.	Moradabad	Gulam Mohammad Khan	Janata-S (C)
464.	Muzaffarnagar	Ghayoor Ali Khan	Janata-S (C)
465.	Nainital	Narain Datt Tiwari	Cong. (I)
466.	Padrauna	C. P. N. Singh	Cong. (I)
467.	Phulpur	B. D. Singh	Janata-S (C)
468.	Pilibhit	Harish Kumar Gangwar	DSF
469.	Pratapgarh	Ajit Pratap Singh	Cong. (I)
470.	Rae Bareli	Arun Kumar Nehru	Cong. (I)
471.	Rampur	Zulfiqar Ali Khan	Cong. (I)
472.	Roberts Ganj (R)	Ram Pyare Panika	Cong. (I)

S. No.	Constituency	Name of the member	Party
473.	Saharanpur	Rasheed Masood	Janata-S (C)
474.	Saidpur (R)	Rajnath Sonkar Shastri	Janata-S (C)
475.	Salempur	Ram Nagina Misra	Cong. (I)
476.	Sambhal	Bijendra Pal Singh	Cong. (I)
477.	Shahabad	D. G. Singh	Cong. (I)
478.	Shahjahanpur	Jitendra Prasad	Cong. (I)
479.	Sitapur	Dr. Rajendra Kumari Bajpai	Cong. (I)
480.	Sultanpur	Gire Raj Singh	Cong. (I)
481.	Tehri Garhwal	T. S. Negi	DSF
482.	Unnao	Z. R. Ansari	Cong. (I)
483.	Varanasi	Pt. Kamalapati Tripathi	Cong. (I)
West Bengal (42)			
484.	Alipurduars (R)	Pius Tirkey	RSP
485.	Arambagh	Bijoy Modak	CPI (M)
486.	Asansol	Anand Gopal Mukhopadhyay	Cong. (I)
487.	Balurghat (R)	Palas Barman	RSP
488.	Bankura	Basudeb Acharia	CPI (M)
489.	Barasat	Chitta Basu	FB
490.	Barrackpore	Mohammed Ismail	CPI (M)
491.	Basirhat	Indrajit Gupta	CPI
492.	Berhampore	Tridib Chaudhuri	RSP
493.	Birbhum (R)	Gadadhar Saha	CPI (M)
494.	Bolpur	Dr. Saradish Roy	CPI (M)
495.	Burdwan	Sushil Bhattacharya	CPI (M)
496.	Calcutta North East	Sunil Maitra	CPI (M)
497.	Calcutta North West	Ashoke Sen	Cong. (I)
498.	Calcutta South	Satyasadhan Chakraborty	CPI (M)
499.	Contai	Sudhir Kumar Giri	CPI (M)
500.	Cooch Behar (R)	Amar Roy Pradhan	FB
501.	Darjeeling	Ananda Pathak	CPI (M)
502.	Diamond Harbour	Jyotirmoy Bosu	CPI (M)
503.	Dum Dum	Niren Ghosh	CPI (M)
504.	Durgapur (R)	Krishna Chandra Halder	CPI (M)
505.	Hooghly	Prof. Rup Chand Pal	CPI (M)
506.	Howrah	Samar Mukherjee	CPI (M)
507.	Jadavpur	Somnath Chatterjee	CPI (M)
508.	Jalpaiguri	Subodh Sen	CPI (M)
509.	Jangipur	Zainal Abedin	CPI (M)
510.	Jhargram (R)	Matilal Hasda	CPI (M)
511.	Joynagar (R)	Sanat Kumar Mandal	RSP
512.	Katwa	Saifuddin Chowdhary	CPI (M)
513.	Krishnagar	R. P. Das	CPI (M)
514.	Malda	A. B. A. Ghani Khan Choudhury	Cong. (I)
515.	Mathurapur (R)	Mukunda Mandal	CPI (M)
516.	Midnapore	Narayan Choubey	CPI
517.	Murshidabad	Syed Masudal Hossain	CPI (M)
518.	Nabadwip (R)	Smt. Bibha Ghosh Goswami	CPI (M)
519.	Panskura	Smt. Geeta Mukherjee	CPI
520.	Purulia	Chitta Mahata	FB
521.	Raiganj	Dr. Golam Yazdan	Cong. (I)

S. No.	Constituency	Name of member	Party
522.	Serampore	Ajit Bag	CPI (M)
523.	Tamluk	Satyagopal Misra	CPI (M)
524.	Uluberia	Hannan Mollah	CPI (M)
525.	Vishnupur (R)	Ajit Kumar Saha	CPI (M)

UNION TERRITORIES

Andaman and Nicobar Islands (1)

526.	Andaman & Nicobar Islands	Manoranjan Bhakta	Cong. (I)
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Arunachal Pradesh (2)

527.	Arunachal East	Sobeng Tayeng	Cong. (I)
528.	Arunachal West	P. K. Thungan	Cong. (I)

Chandigarh (1)

529.	Chandigarh	Jagan Nath Kaushal	Cong. (I)
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Dadra and Nagar Haveli (1)

530.	Dadra and Nagar Haveli (R)	R. P. Mahala	Cong. (I)
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Delhi (7)

531.	East Delhi	H. K. L. Bhagat	Cong. (I)
532.	Chandni Chowk	Bhiku Ram Jain	Cong. (I)
533.	Delhi Sadar	Jagdish Tytler	Cong. (I)
534.	Karol Bagh (R)	Dharam Dass Shastri	Cong. (I)
535.	New Delhi	Atal Behari Vajpayee	BJP
536.	Outer Delhi	Sajjan Kumar	Cong. (I)
537.	South Delhi	Charanjit Singh	Cong. (I)

Goa, Daman and Diu (2)

538.	Mormugao	Eduardo Faleiro	Cong. (I)
539.	Panaji	Smt. Sanyogita Rane	Cong. (I)

Lakshadweep (1)

540.	Lakshadweep (R)	P. M. Sayeed	Cong. (I)
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Mizoram (1)

541.	Mizoram	Dr. R. Rothuma	UA
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Pondicherry (1)

542.	Pondicherry	P. Shanmugam	Cong. (I)
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Anglo-Indians (2)¹

543.		Frank Anthony	UA
544.		A. E. T. Barrow	UA

CIVILIAN AWARDS ANNOUNCED ON 26 JANUARY, 1981

Bharat Ratna

The award is made for exceptional work for the advancement of art, literature and science and in recognition of public service of the highest order.

Recipient

None

¹Nominated by the President.

Padma Vibhushan

The award is made for exceptional and distinguished service in any field, including service rendered by government servants.

Recipients

1. Ravi Shankar
2. Dr. Satish Dhawan

Padma Bhushan

The award is made for distinguished service of high order in any field including service rendered by government servants.

Recipients

1. Amrit Lal Nagar
2. Smt. Avabi Bomanji Wadia
3. Avul Pakir Jinalabudeen Abdul Kalam
4. Gopinath Mohanty
5. Dr M. K. Vainu Bappy
6. Smt. Mekhala Jha
7. Mrinal Sen
8. Prabhat Kumar Mukherjee
9. Dr. Prafulla B. Desai

Padma Shri

The award is made for distinguished service in any field, including service rendered by government servants.

Recipients

28

GALLANTRY AWARDS 1980**Ashok Chakra**

This medal is granted for the most conspicuous bravery or some daring or pre-eminent act of valour or self-sacrifice on land, at sea or in the air.

Recipient

None

Kirti Chakra

This decoration is awarded for conspicuous gallantry.

Recipients

7

Shaurya Chakra

This decoration is awarded for an act of gallantry.

Recipients

35

Sena Medal

35

Nao Sena Medal

6

Vayu Sena Medal

5

DISTINGUISHED SERVICE AWARDS 1980**Param Vishisht Seva Medal**

The Param Vishisht Seva Medals awarded to personnel of all the three services in recognition of distinguished service of the 'most exceptional' order.

Recipients

17

Ati Vishisht Seva Medal

The Ati Vishisht Seva Medal is awarded to personnel of all the three services in recognition of distinguished service of 'exceptional' order.

Recipients

36

Vishisht Seva Medal

The Vishisht Seva Medal is awarded to personnel of all the three services in recognition of distinguished service.

Recipients

55

UNIVERSITIES IN INDIA
(as on 30 September 1979)

S. No.	Name, Location & Year of Establishment	Type as specified in Act	3			Number of Colleges as on 31st March, 1980	Number of Students	
			4	5	6		University Deptt./University Colleges	Affiliated Colleges
1	2	3	4	5	6			
1.	Agra University, Agra (1926)	Affiliating	42	545	43,801			
2.	Aligarh Muslim University, Aligarh (1920)	Residential	4	13,094	—			
3.	Allahabad University, Allahabad (1887)	Residential and Teaching	12	13,466	14,694			
4.	Andhra University, Waltair (1925)	Teaching and Affiliating	118	7,345	51,046			
5.	Andhra Pradesh Agricultural University, Hyderabad (1963)	Residential with three Campuses	6	2,637	—			
6.	Annamalai University, Annamalai-nagar (1928)	Unitary and Residential	—	7,332	—			
7.	Assam Agricultural University, Jorhat (1968)	Residential	3	857	—			
8.	Avadh University, Faizabad (1975)	Affiliating	25	—	26,247			
9.	Awadhesh Pratap Singh University, Rewa (1968)	Teaching and Affiliating	43	76	19,347			
10.	Banaras Hindu University Varanasi (1915)	Residential	5	15,695	3,206			
11.	Bangalore University, Bangalore (1964)	Affiliating	98	4,547	53,418			
12.	Berhampur University, Berhampur (1966)	Affiliating	20	993	6,040			
13.	Bhagalpur University, Bhagalpur (1960)	Affiliating-cum-Teaching	38	10,319	4,491			
14.	Bhavnagar University, Bhavnagar (1978)	Teaching and Residential	7	2,786	1,218			
15.	Bhopal University, Bhopal (1970)	Affiliating	25	130	91,552			
16.	Bidhan Chandra Krishi Viswa Vidyalyaya, Kalyani (1974)	Residential	—	1,074	—			
17.	Bihar University, Muzaffarpur (1952)	Teaching-cum-Affiliating	64	10,624	8,176			
18.	Bombay University, Bombay (1857)	Teaching, Affiliating and Federal	127	5,639	1,27,216			
19.	Bundelkhand University, Jhansi (1975)	Affiliating	16	—	12,093			
20.	Burdwan University, Burdwan (1959)	Affiliating & Teaching	60	1,453	28,553			
21.	Calcutta University, Calcutta (1857)	Teaching and Affiliating	221	13,753	1,36,330			
22.	Calicut University, Calicut (1968)	Affiliating	66	721	35,218			
23.	Cochin University, Cochin (1971)	Federal	—	1,036	—			
24.	Chandra Shekhar Azad University of Agriculture & Technology, Kanpur (1974)	Residential	2	1,197	—			
25.	Delhi University, Delhi (1922)	Teaching and Affiliating	54	18,810	50,032			

26. Dibrugarh University, Dibrugarh (1965)	Teaching Affiliating and Residential	47	775	16,336
27. Garhwal University, Srinagar (Garhwal) (1973)	Residential-cum-Affiliating	19	1,894	11,218
28. Gauhati University, Gauhati (1947)	Teaching, Residential & Affiliating	124	3,949	37,795
29. G. B. Pant University of Agriculture & Technology, Pantnagar (1958)	Residential	6	2,353	—
30. Gorakhpur University, Gorakhpur (1956)	Teaching and Affiliating	98	7,877	67,897
31. Gujarat University, Ahmedabad (1949)	Teaching and Affiliating	144	1,992	82,008
32. Gujarat Agricultural University, Banaskantha (1972)	Residential	5	1,856	—
33. Gujarat Ayurveda University, Jamnagar (1965)	Teaching and Affiliating	11	629	1,347
34. Guru Nanak Dev University, Amritsar (1969)	Teaching and Affiliating	75	1,751	36,320
35. Haryana Agricultural University, Hissar (1970)	Residential	7	2,045	—
36. Himachal Pradesh University, Simla (1970)	Affiliating	25	1,758	9,466
37. Himachal Pradesh Krishi Vishva Vidyalaya, Palampur (1978)	Residential	2	625	—
38. Hyderabad University, Hyderabad (1974)	Unitary, Teaching and Residential	—	418	—
39. Indira Kala Sangit Vishva Vidyalaya, Khairagarh (1956)	Teaching and Affiliating	26	151	908
40. Indore University, Indore (1963)	Federal	21	975	20,159
41. Jabalpur University, Jabalpur (1956)	Affiliating	27	1,076	17,506
42. Jadavpur University, Calcutta (1955)	Unitary and Teaching with Powers of Affiliation	2	4,185	539
43. Jammu University, Jammu (1969)	Teaching & Affiliating	14	1,521	5,323
44. Jawaharlal Nehru University, New Delhi (1966)	Residential & Unitary	—	3,781	—
45. Jawaharlal Nehru Krishi Vishva Vidyalaya, Jabalpur, (1964)	Residential	9	2,553	—
46. Jawaharlal Nehru Technological University, Hyderabad (1972)	Not specified	4	3,562	—
47. Jiwaji University, Gwalior (1963)	Teaching & Affiliating	38	238	26,359
48. Jodhpur University, Jodhpur (1962)	Residential	4	9,676	1,724
49. Kalyani University, Kalyani (1960)	Affiliating	3	1,558	857
50. Kakatiya University, Warangal (1976)	Affiliating	16	2,515	4,891
51. K. S. Darbhanga Sanskrit University, Darbhanga (1960)	Teaching and Affiliating	58	680	3,691
52. Kanpur University, Kanpur (1965)	Teaching and Affiliating	73	—	56,463
53. Karnatak University, Dharwar (1950)	Affiliating and Residential	148	7,812	49,561
54. Kashi Vidyapith, Varanasi (1974)	Residential	—	5,999	—
55. Kashmir University, Srinagar (1948)	Teaching & Affiliating	23	1,214	9,935
56. Kerala University, Trivandrum (1937)	Teaching, Residential and Affiliating	103	1,030	66,926
57. Kerala Agricultural University, Trichur (1971)	Residential	4	1,366	—

1	2	3	4	5	6
		Teaching, Research & Extension			
58	Konkan Krishi Vidyapith, Dapoli (1972)	Affiliating	2	594	—
59	Kumaon University, Nainital (1973)	Teaching-cum-Affiliating	13	3,402	3,953
60	Kurukshetra University, Kurukshetra (1956)	Teaching-cum-Residential	61	4,208	26,806
61	Lucknow University, Lucknow (1921)	Teaching and Affiliating	22	15,184	178,70
62	Lalit Narayan Mithila University, Darbhanga (1972)	Teaching and Affiliating	51	10,930	3,337
63	Madras University, Madras (1857)	Teaching and Affiliating	168	3,232	1,16,631
64	Madurai Kamraj University, Madurai (1965)	Teaching and Affiliating	99	1,048	49,298
65	Magadh University, Bodh Gaya (1962)	Affiliating-cum-Residential	53	18,169	8,625
66	M. S. University of Baroda, Vadodra (1949)	Teaching and Residential	1	17,250	—
67	Maharishi Dayanand University, Rohtak (1976)	Affiliating	61	1,498	28,052
68	Mahatma Phule Krishi Vidyapeeth Rahuri (1967)	Federal	5	1,822	—
69	Marathwada University, Aurangabad (1958)	Affiliating	84	1,919	24,025
70	Marathwada Krishi Vidyapeeth, Parbhani (1972)	Affiliating	4	1,438	—
71	Meerut University, Meerut (1955)	Affiliating	53	472	58,750
72	Mysore University, Mysore (1916)	Affiliating	128	5,595	57,170
73	Nagarjuna University, Nagarjunanagar (1976)	Affiliating	30	1,137	16,881
74	Nagpur University Nagpur (1923)	Teaching and Affiliating	141	4,800	43,353
75	N. D. University of Agriculture & Technology, Faizabad (1974)	Residential	1	44	—
76	North Bengal University, Rajarammohanpur, Darjeeling (1962)	Teaching and Affiliating	34	2,426	13,393
77	North-Eastern Hill University, Shillong (1973)	Teaching and Affiliating	29	1,260	5,910
78	Orissa University of Agriculture & Technology, Bhubaneswar (1961)	Residential	4	1,022	—
79	Osmania University, Hyderabad (1918)	Residential, Affiliating and Teaching	109	10,576	32,817
80	Punjab University, Chandigarh (1947)	Teaching and Affiliating	86	6,387	42,184
81	Patna University, Patna (1917)	Teaching-cum-Residential	13	9,926	961
82	Perarignar Anna University of Agriculture & Technology, Madras (1978)	Unitary	4	3,677	—
83	Poona University, Poona (1948)	Teaching and Affiliating	115	1,590	68,192
84	Punjab Agriculture University, Ludhiana (1961)	Residential	6	3,078	—
85	Punjab University, Patiala (1961)	Teaching and Affiliating	50	2,050	20,369
86	Punjabrao Krishi Vidyapeeth, Akola (1969)	Yet to be finalised	7	2,246	—
87	Rabindra Bharati University, Calcutta (1962)	Teaching and Affiliating	—	2,700	—
88	Rajasthan University, Jaipur (1946)	Teaching-cum-Affiliating	174	14,137	1,05,477

89. Rajendra Agricultural University, Pusa (Samastipur), (1970)	Residential and Teaching	5	1,411	—
90. Ranchi University, Ranchi (1960)	Teaching and Affiliating	50	15,839	17,094
91. Ravi Shankar University, Raipur (1963)	Teaching and Affiliating	63	743	34,791
92. Rohilkhand University, Barelly, (1975)	Teaching and Affiliating	31	—	28,388
93. Roorkee University, Roorkee (1948)	Affiliating	—	2,273	—
94. Sambalpur University, Sambalpur (1966)	Unitary, Teaching and Residential	31	2,464	10,008
95. Sampurnanand Sanskrit University, Varanasi (1958)	Affiliating-Cum-Teaching	119	1,147	2,062
96. Sardar Patel University, Vallabh Vidyanagar (1955)	Residential, Affiliating and Examining	14	1,529	7,792
97. Sagar University, Sagar (1946)	Teaching and Affiliating	50	7,464	22,574
98. Saurashtra University, Rajkot (1965)	Residential, Teaching & Affiliating	55	308	29,612
99. Shivaji University, Kolhapur (1962)	Teaching and Affiliating	87	1,276	42,178
100. S.N.D.T. Women's University, Bombay (1949)	Affiliating and Teaching	24	3,534	4,173
101. South Gujarat University, Surat (1966)	Teaching and Affiliating	35	908	20,188
102. Sri Venkateswara University, Tirupati (1954)	Affiliating	54	3,401	27,353
103. Tamil Nadu Agricultural University Coimbatore (1971)	Residential, Teaching and Affiliating	5	2,633	—
104. Udaipur University, Udaipur (1962)	Not specified	14	5,704	5,534
105. University of Agricultural Sciences, Hebbal (1963)	Teaching and Affiliating	8	3,391	—
106. Utkal University, Bhubaneswar (1943)	Residential	63	4,371	25,514
107. Vikram University, Ujjain (1957)	Affiliating-cum-Teaching	43	4,503	21,029
108. Visva Bharati University, Santiniketan (1951)	Teaching and Affiliating	7	1,453	—
	Unitary, Teaching and Residential	—	—	—
	—	—	2,189	—
	—	—	458	—
	—	—	444	—
	—	—	455	—
	—	—	300	—
	—	—	565	—
	—	—	1,181	—
	—	—	762	—
	—	—	1,341	—
	—	—	332	—
	—	—	216	—

INSTITUTIONS DEEMED TO BE UNIVERSITIES

1. Birla Institute of Technology & Science, Pilani (1964)
2. Central Institute of English & Foreign Languages, Hyderabad (1973)
3. Gandhigram Rural Institute, Gandhigram, Madurai, (1976)
4. Gujarat Vidyapith, Ahmedabad (1963)
5. Gurukul Kangri, Haridwar (1962)
6. Indian Agricultural Research Institute, New Delhi, (1958)
7. Indian Institute of Science, Bangalore (1958)
8. Indian School of Mines, Dhanbad (1967)
9. Jamia Millia Islamia, New Delhi (1958)
10. School of Planning & Architecture, New Delhi (1979)
11. Tata Institute of Social Sciences (1964)

LALIT KALA AKADEMI AWARDS 1980

(23rd National Exhibition of Art, 1980)

<i>Awardees</i>	1. Rameshwar Broota	"Man-II" Oils
	2. Manjit Bawa	"Purple Panther"—Oils
	3. Brahm	"Painting—I"—Oils
	4. Jayant Parikh	"Parting"—Graphic
	5. Subhash Chander Gupta	"Silent Glory"—Graphic
	6. Amitabha Banerjee	"Romance"—Etching
	7. G. Ravinder Reddy	"Sculpture-I"—Fibre Glass

SANGEET NATAK AKADEMI FELLOWSHIPS AND AWARDS 1980

<i>Fellowship</i>	1. Dr. V. K. Narayana Menon	
<i>Awardees</i>	1. Nivrittibua Sarnaik	Hindustani Vocal
	2. Vishnu Govind Jog	Hindustani Instrumental (Violin)
	3. Seerkhazhi S. Govindarajan	Karnatak Vocal
	4. Thanjavur K. P. Sivanandam	Karnatak Instrumental (Veena)
	5. Balappa Veerabhadrapa Hukkeri	Folk Music (Ballad singing)
	6. Leishangthem Thouranishabi Devi	Manipuri
	7. Raseshwar Saikia Bayan Moktar	Satriya
	8. R. K. Priyagopal Sana	Choreography
	9. Sheikh Gulab	Choreography (Tribal Dance)
	10. Rudraprasad Sengupta	Direction
	11. Narasinga Rao Parwathavadi	Playwriting (Kannada)
	12. Dina Pathak	Acting
	13. G. Swaminathan	Bhagavatamela
	14. Chimanlal Amtharam Naik	Bhavai
	15. Raghunath Satapathy	Prahlada Nataka
	16. Fida Bai Markam	Nacha
	17. K. L. Krishnan Kutty Pulavar	Thol Pava Koothu

SAHITYA AKADEMI AWARDS 1980

Language	Book (Subject)	Author
Assamese	<i>Prithibir Asukh</i> (Short Stories)	Jogesh Das
Bengali	<i>Shamba</i> (Novel)	Samaresh Basu
Dogri	<i>Ghar</i> (Potery)	Kunwar Vijogi
English	<i>On the Mother, I & II</i> (Biography)	K. R. Srivivasa Iyengar
Gujarati	<i>Anunaya</i> (Poetry)	Jayant Pathak
Hindi	<i>Zindaginama-Zinda Rukh</i> (Novel)	Krishna Sobti
Kannada	<i>Americadalli Goruru</i> (Travelogue)	Goruru Ramaswami Iyengar
Konkani	<i>Pisollim</i> (Poetry)	Manohar Sardesai
Maithili	<i>Ee Bataha Sansar</i> (Novel)	Sudhanshu "Shekhar" Choudhary
Malayalam	<i>Smarake Silakal</i> (Novel)	Punathil Kunjabdulla
Marathi	<i>Salam</i> (Poetry)	Mangesh Padgaonkar
Nepali	<i>Sunakhari</i> (Novel)	Okiyama Gwyne
Oriya	<i>Abantar</i> (Poetry)	Ananta Patnaik
Punjabi	<i>Suraj te Kehkashan</i> (Poetry)	Sukhpal Vir Singh 'Hasrat'
Rajasthani	<i>Mharo Gaon</i> (Poetry)	Rameshwar Dayal Shrimali
Sanskrit	<i>Kristubhagavatam</i> (Epic)	P. C. Devassia
Sindhi	<i>Yad Hik Pyar Ji</i> (Novel)	Krishin Khatwani
Tamil	<i>Chereman Kadali</i> (Novel)	Kannadasan
Urdu	<i>Iqbal Ki Terah Nazmen</i> (Literary Criticism).	A. A. Ansari

Category	Award		Film	Language	Awardee	
	1	2	3	4	5	
Best feature film	.	.	Swaran Kamal and Rs. 50,000	Aakaler Sandhane	Bengali	Dhiresk Kumar Chakraborty, (Producer). Also Rs 25,000 and Swaran Kamal to Mrinal Sen (Director).
Best feature film on national integration	.	.	Rajat Kamal and Rs. 30,000	Bhavni Bhavai	Gujarati	Sanchar Film Co-operative Society Ltd. (Producer). Also Rs 15,000 and Rajat Kamal to Ketan Mehta (Director).
Best children's film	.	.	No film was considered suitable for the award.			
Best Direction	.	.	Rajat Kamal and Rs 20,000	Aakaler Sandhane	Bengali	Mrinal Sen (Director).
Best screenplay	.	.	Rajat Kamal and Rs 10,000	Aakaler Sandhane	Bengali	Mrinal Sen (Screenplay Writer).
Best cinematography (colour)	.	.	Rajat Kamal and Rs 10,000	Nenjathai Killathe	Tamil	Ashok Kumar (Cameraman)
Best cinematography (Black and White)	.	.	Rajat Kamal and Rs 10,000	Yagam	Malayalam	Shri Sivan (Cameraman)
Best editing	.	.	Rajat Kamal and Rs 7,500	Aakaler Sandhane	Bengali	Gangadhar Naskar (Editor).
Best art direction	.	.	Rajat Kamal and Rs 7,500	Bhavni Bhavai	Gujarati	Smt. Meera Lakhia (Art Director).
Best actor	.	.	Rajat Kamal and Rs 10,000	Oppol	Malayalam	Balan K. Nair (Actor).
Best actress	.	.	Rajat Kamal and Rs 10,000	Chakra	Hindi	Smita Patil (Actress).
Best child actor	.	.	Rajat Kamal and Rs 10,000	Oppol	Malayalam	Aravind (Child-actor).
Best music director	.	.	Rajat Kamal and Rs 10,000	Hirak Rajar Deshe	Bengali	Satyajit Ray (Music Director).
Best male playback singer	.	.	Rajat Kamal and Rs 10,000..	Hirak Rajar Deshe	Bengali	Anup Ghosal (Singer).
Best female playback singer	.	.	Rajat Kamal and Rs 10,000	Oppol	Malayalam	S. Janaki (Singer).
Best feature film in Hindi	.	.	Rajat Kamal and Rs 15,000	Aakrosh	Hindi	Devi Datt (Producer). Also Rs 7,500 and Rajat Kamal to Govind Nihalani (Director).
Best audiography	.	.	Rajat Kamal and Rs 7,500	Nendathat Killathe	Tamil	S.P. Ramanathan (Audiographer).
Best first film of a director	.	.	Rajat Kamal and Rs 10,000	Maina Tadanta	Bengali	Utpalendu Chakraborty (Director).
Best feature film in each regional language ²	.	.	Rajat Kamal and Rs 15,000	Anirban	Assamese	Smt Preeti Saikia (Producer). Also Rs 7,500 and Rajat Kamal to Bhabendra Nath Saikia (Director).

1	2	3	4	5
	Rajat Kamal and Rs 15,000	Hirak Rajar Deshe	Bengali	Information & Cultural Affairs Department, Government of West Bengal (Producer). Also Rs 7,500 and Rajat Kamal to Satyajit Ray (Director).
—	Rajat Kamal and Rs 15,000	Yagam	Malayalam	Smt. B. Chandramani Bai (Producer). Also Rs 7,500 and Rajat Kamal to Shri Sivan (Director).
—	Rajat Kamal and Rs 15,000	Chann Pardesee	Punjabi	Smt. Swarn Sedha, Baldev Gill and J. S. Cheema (Producers). Also Rs 7,500 and Rajat Kamal to Chittratha Singh (Director).
—	Rajat Kamal and Rs 15,000	Nenjathai Killathe	Tamil	K. Rajagopal Chetty (Producer). Also Rs 7,500 and Rajat Kamal to J. Mahendran (Director).
—	Rajat Kamal and Rs 15,000	Harischendrudu	Telugu	U. D. Murali Krishna (Producer). Also Rs. 7,500 and Rajat Kamal to U. Visweswar Row (Director).
Best information film (documentary)	Rajat Kamal and Rs 10,000	Daldal	Hindi	Smt. Krystyna Khote (Producer) Also Rs 5,000 and Rajat Kamal to Pradeep Dixit (Director).
Best educational/instructional film	Rajat Kamal and Rs 10,000	Mariculture	English	Films Division Govt. of India (Producer). Also Rs 5,000 & Rajat Kamal to C. J. Paulose (Director).
Best promotional film	Rajat Kamal	Oil Offshore	English	Prem Prakash (Producer). Also Rajat Kamal to Satya Prakash (Director).
Best experimental film	Rajat Kamal and Rs 10,000	Arrival	English	Films Division, Govt. of India (Producer). Also Rs 5,000 and Rajat Kamal to Mani Kaul (Director).
Best animation film		No award given	—	
Best new/reel cameramen	Rajat Kamal and Rs 5,000	Tragedy of Gendi	—	M. P. Sinha and RajaGopal Rao (Cameraman).
Best Indian news review	Rajat Kamal and Rs 5,000	Day of the Dark Son	English	Films Division, Govt. of India (Producer).

Swaran Kamal—Golden Lotus

Rajat Kamal—Silver Lotus

¹Appendix to chapter 10.

²No film was considered suitable for the awards in Gujarati, Kannada, Marathi and Oriya whereas no entry for films in English, Kashmiri, Manipuri and Sindhi was received.

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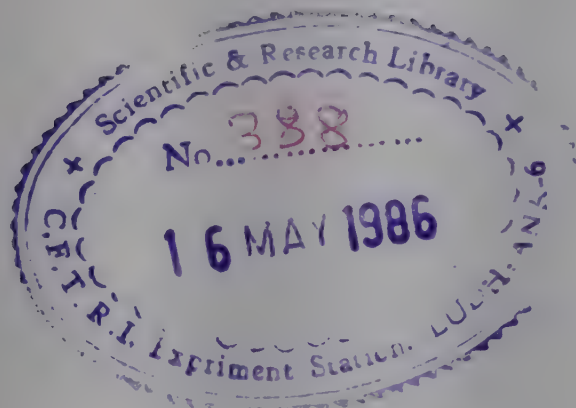
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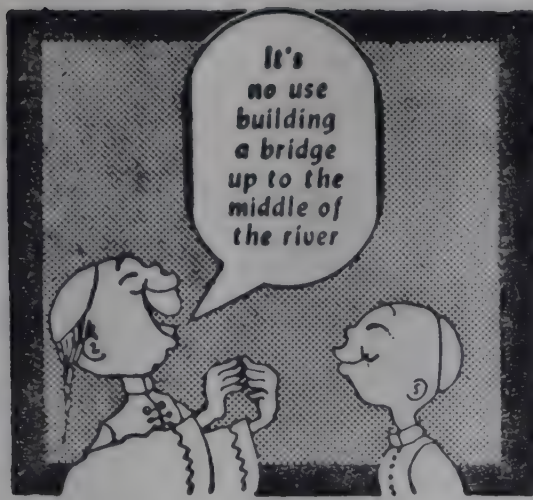
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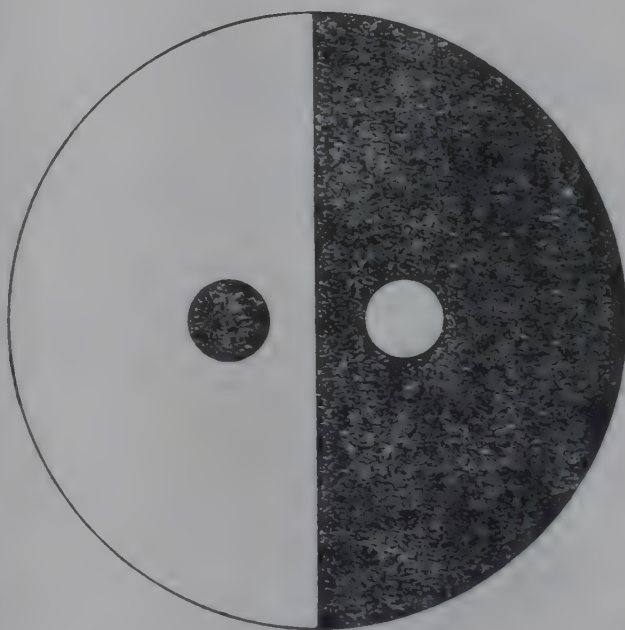
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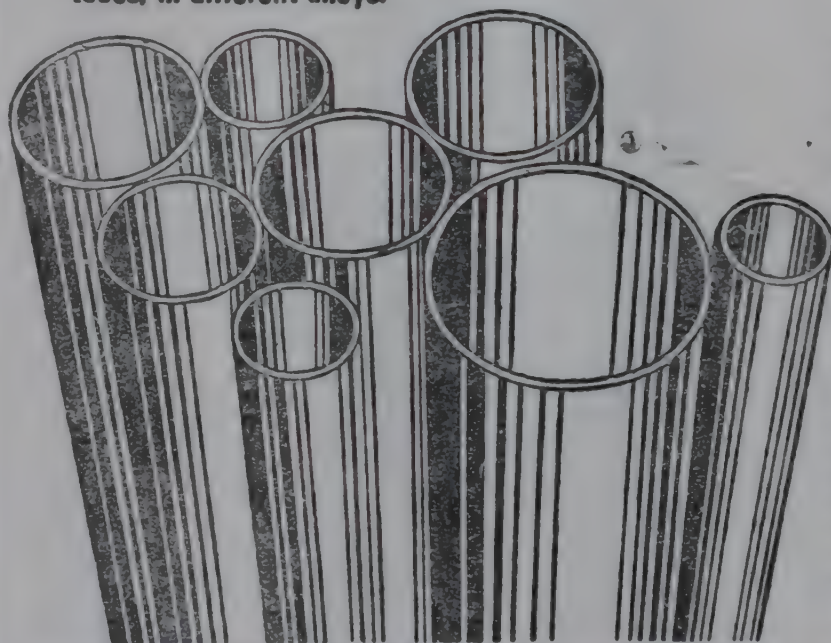
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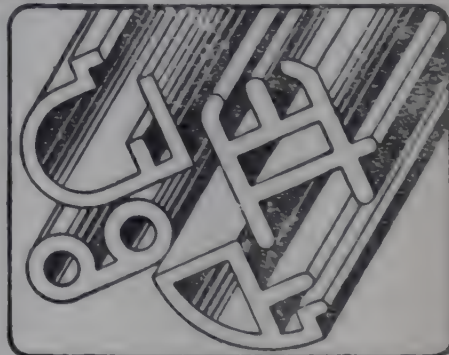
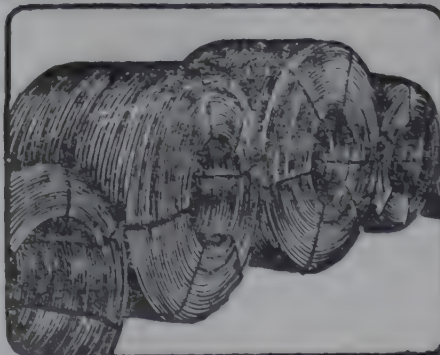
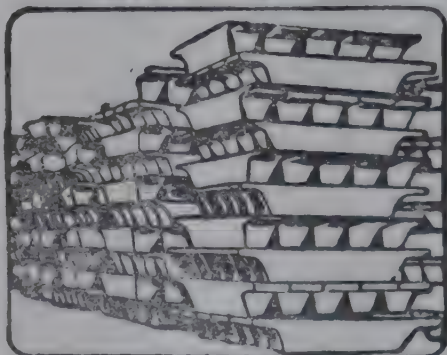
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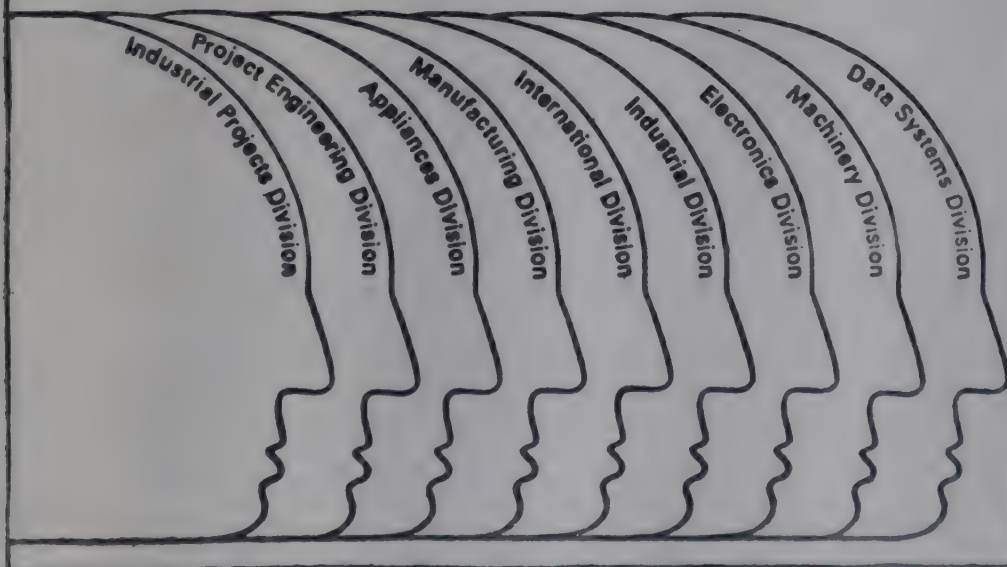
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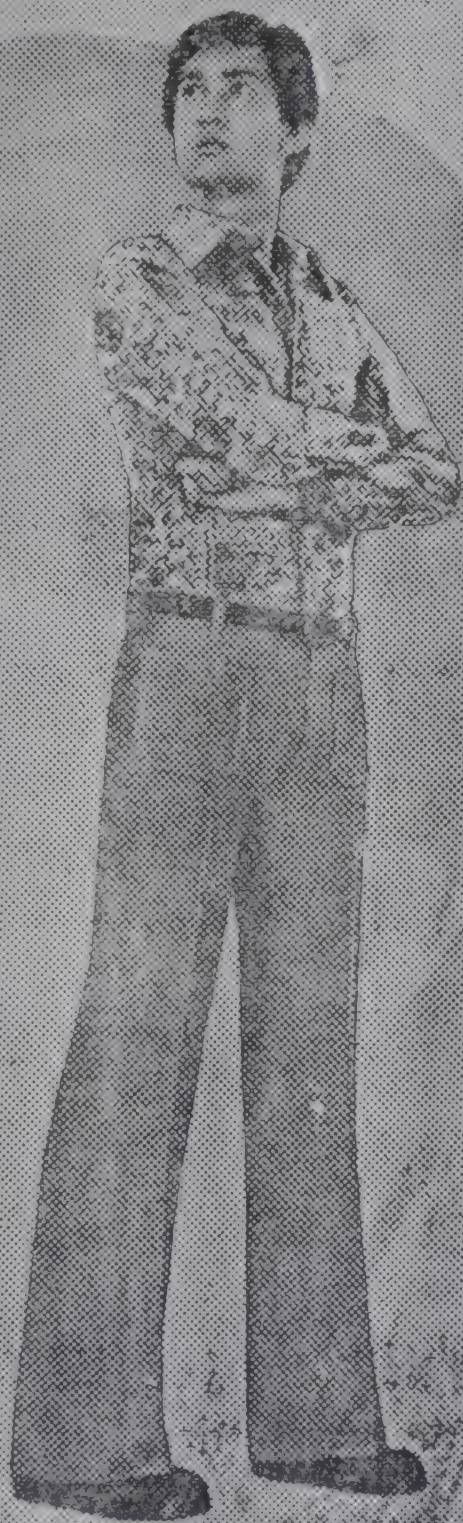
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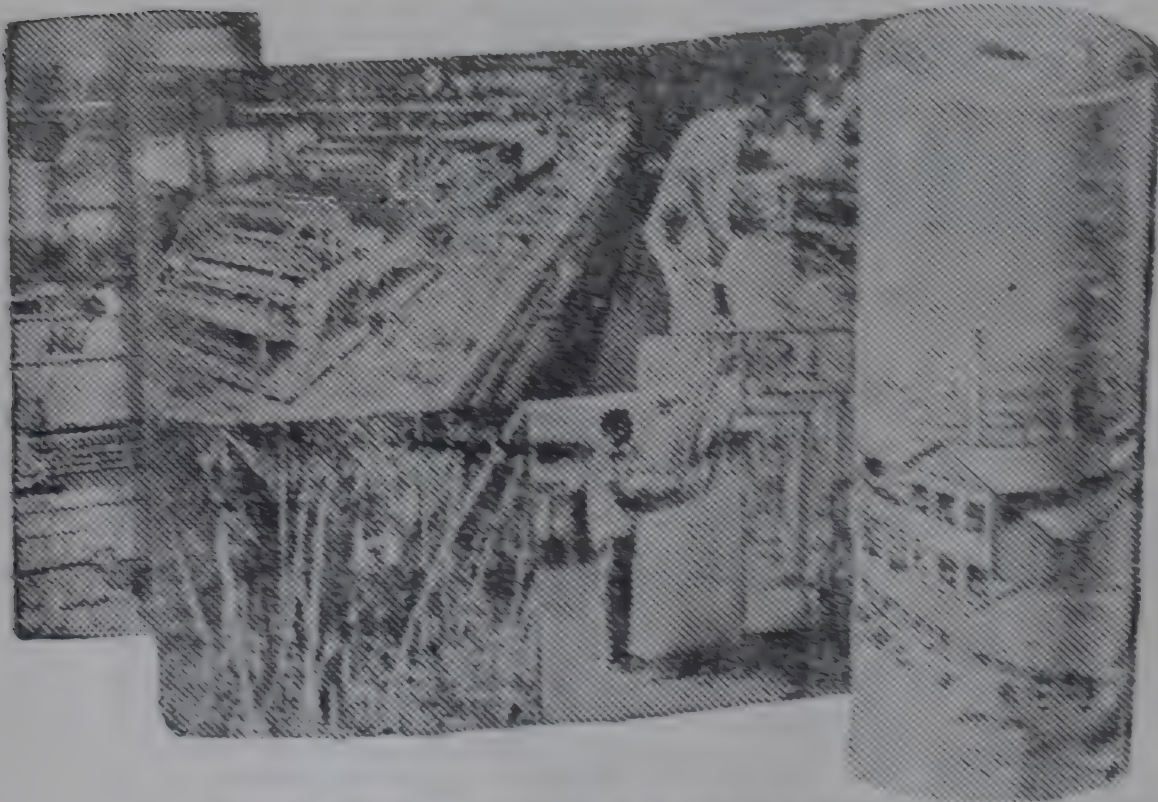
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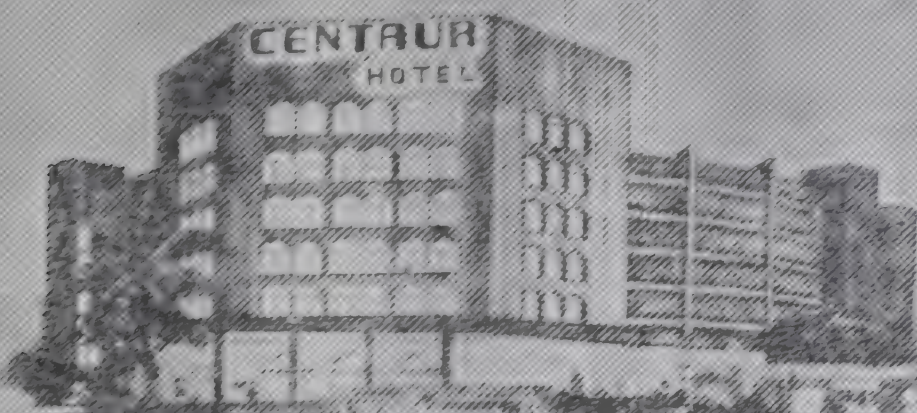
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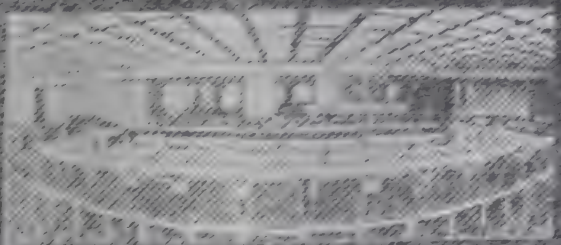
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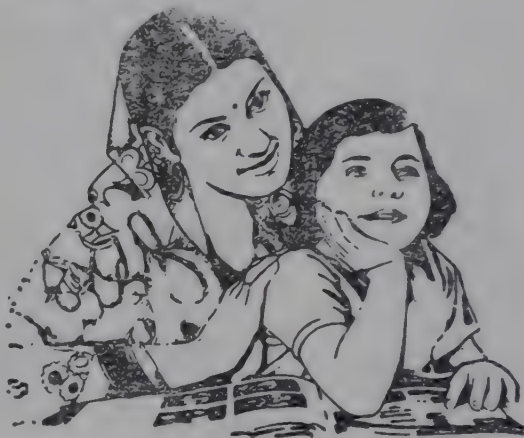


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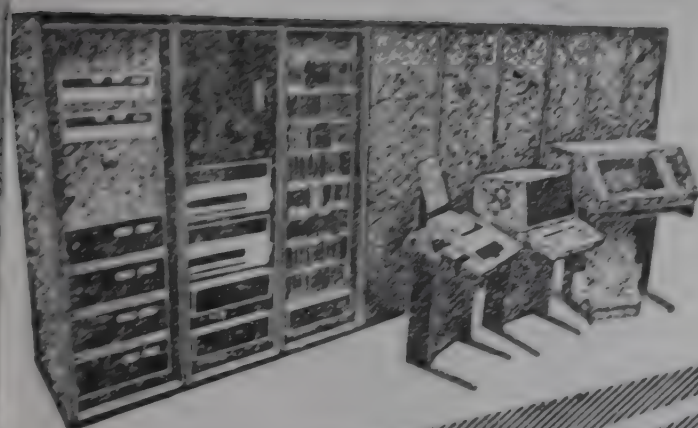
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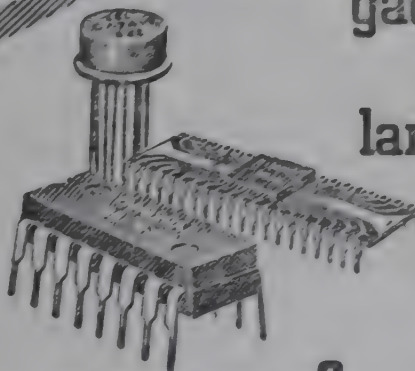
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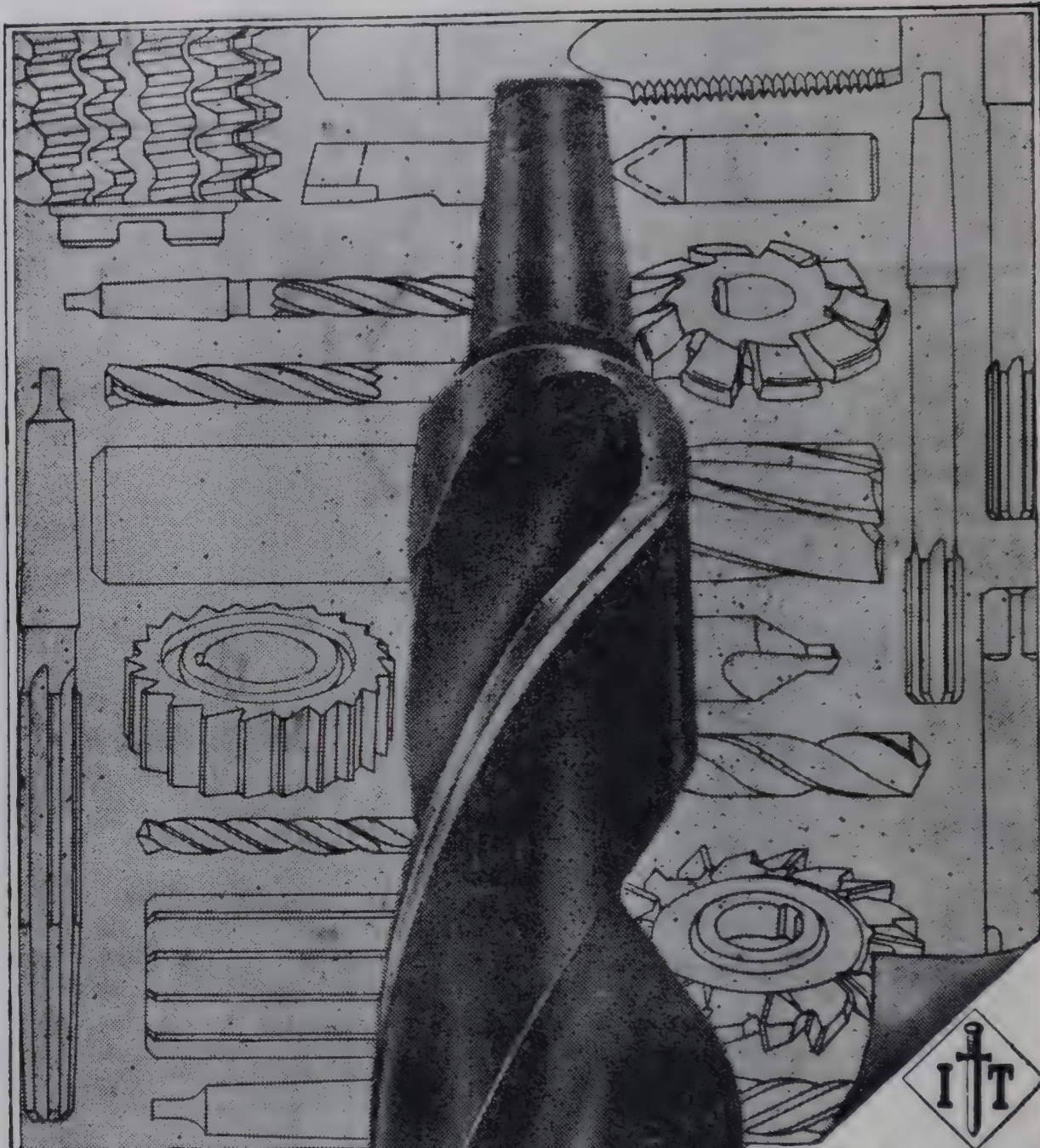


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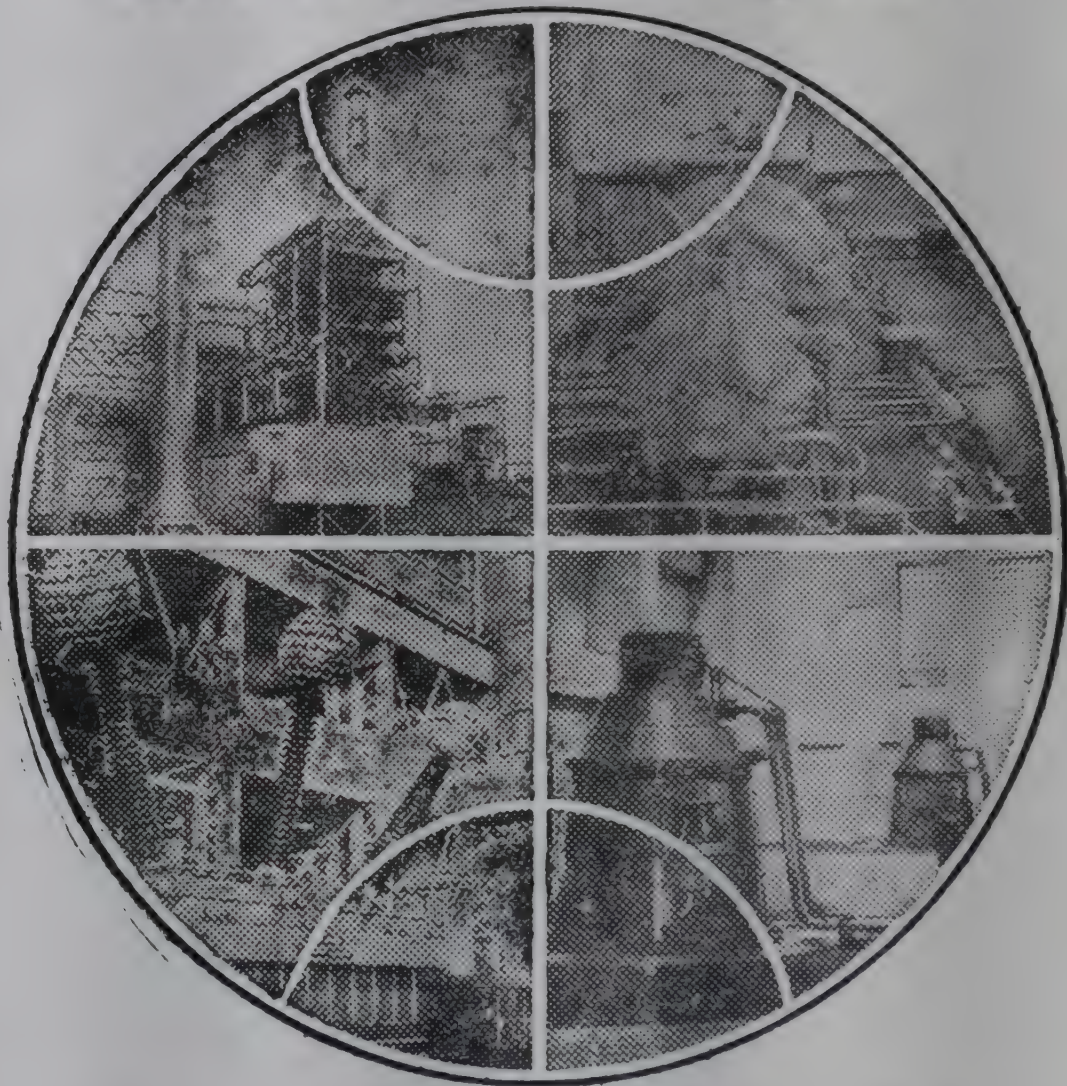
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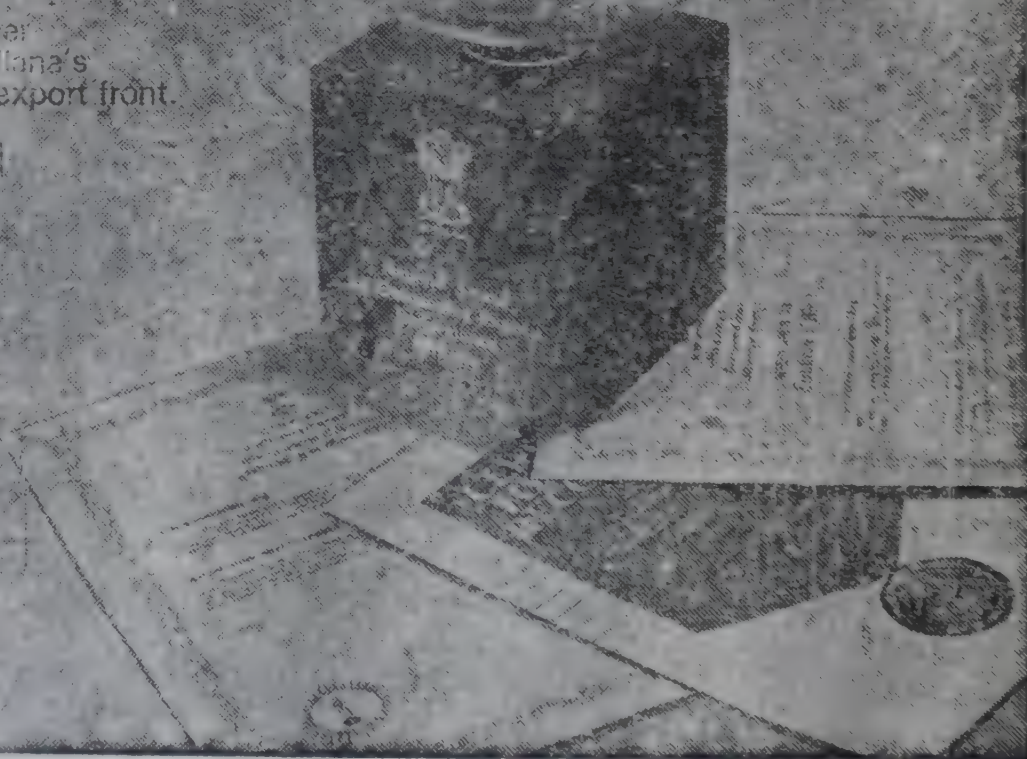
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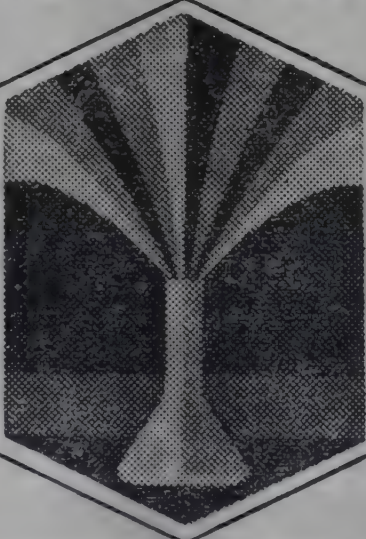
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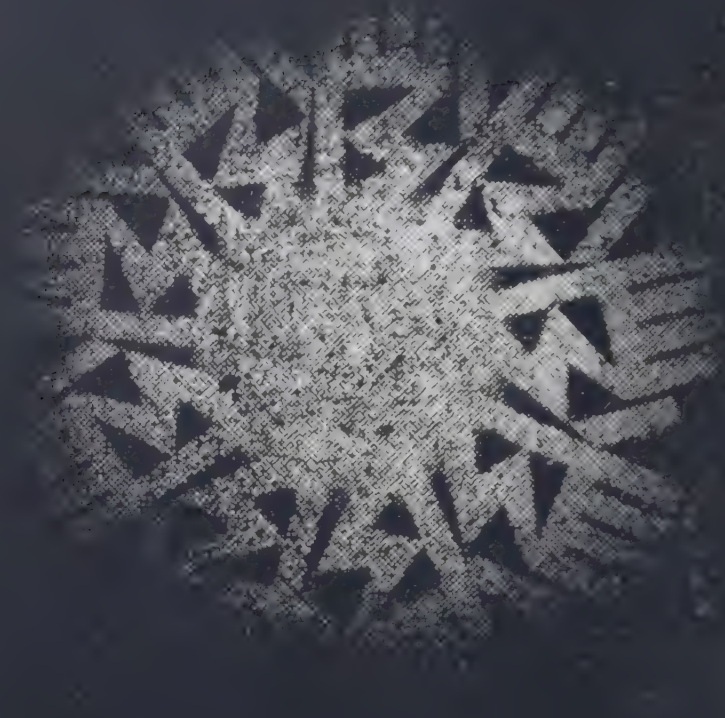
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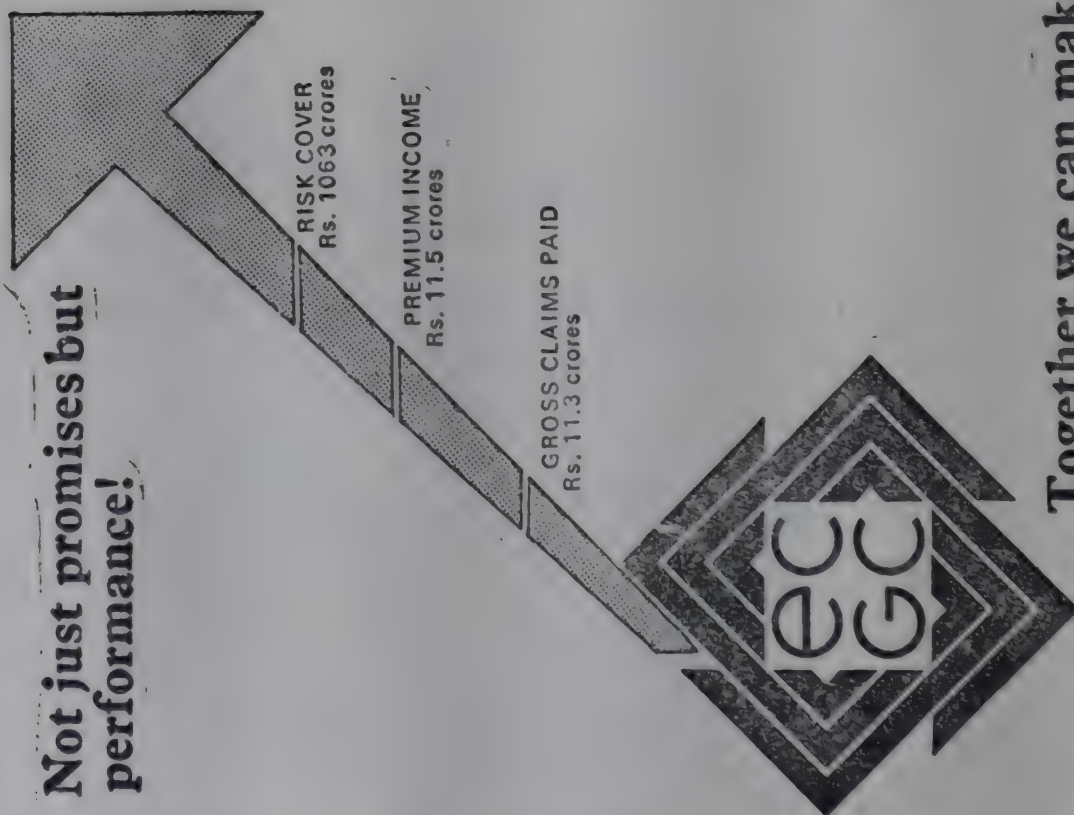
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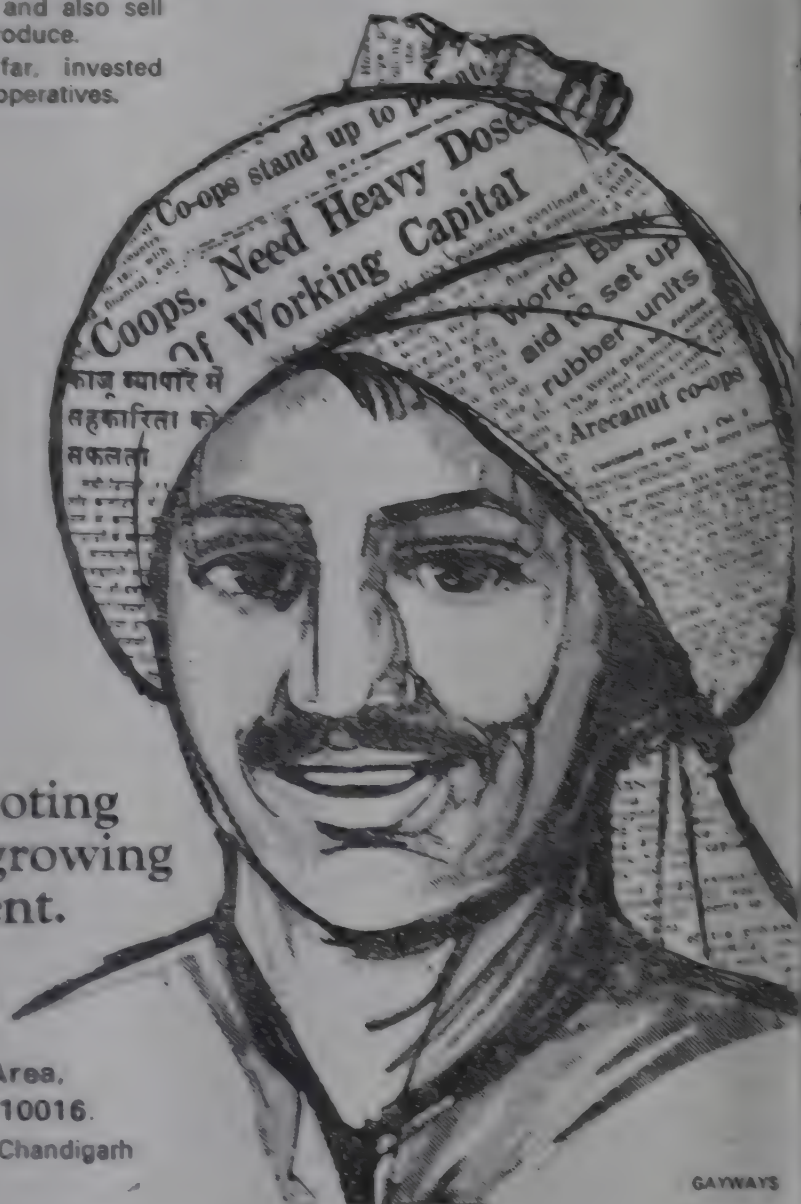
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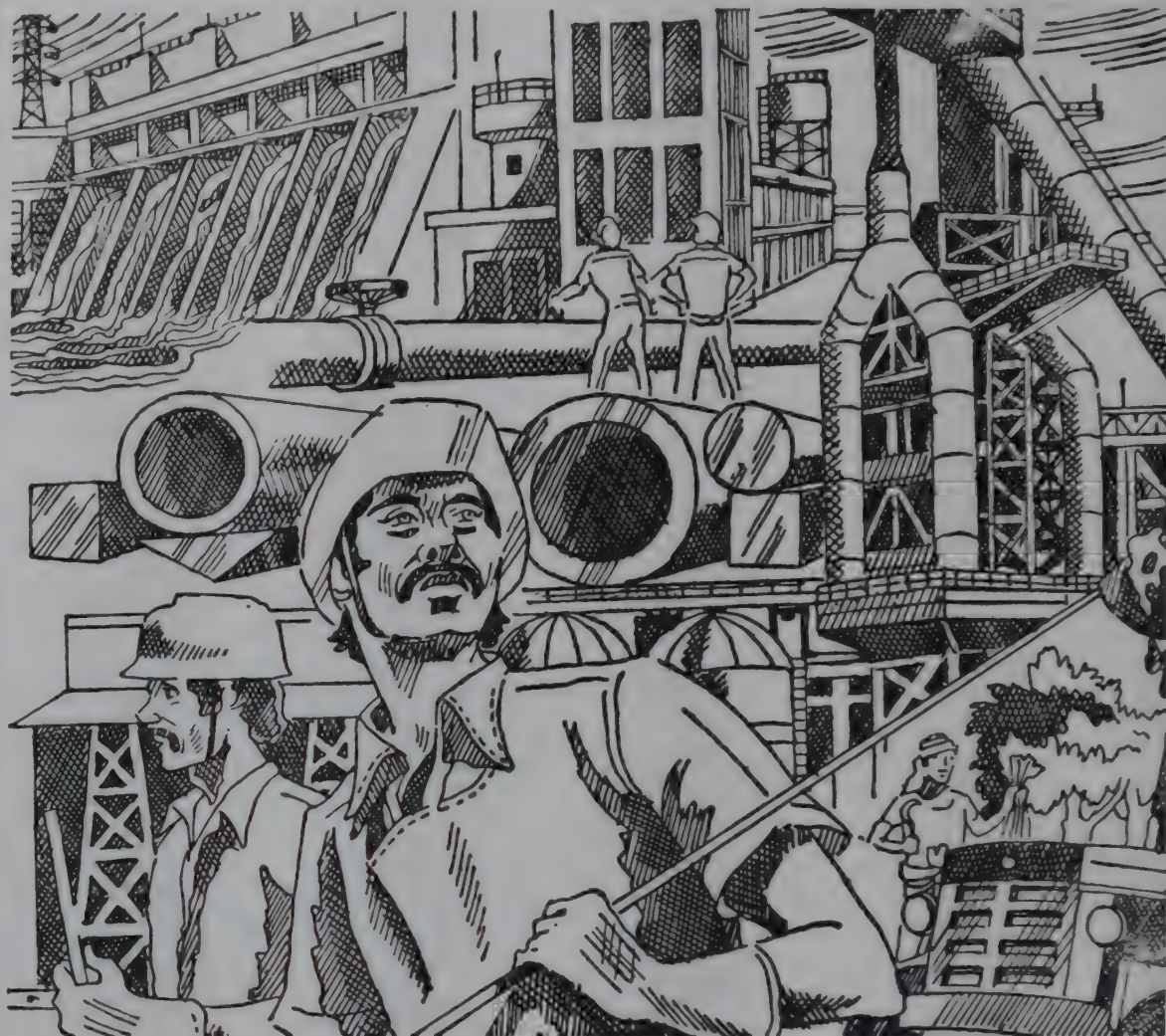
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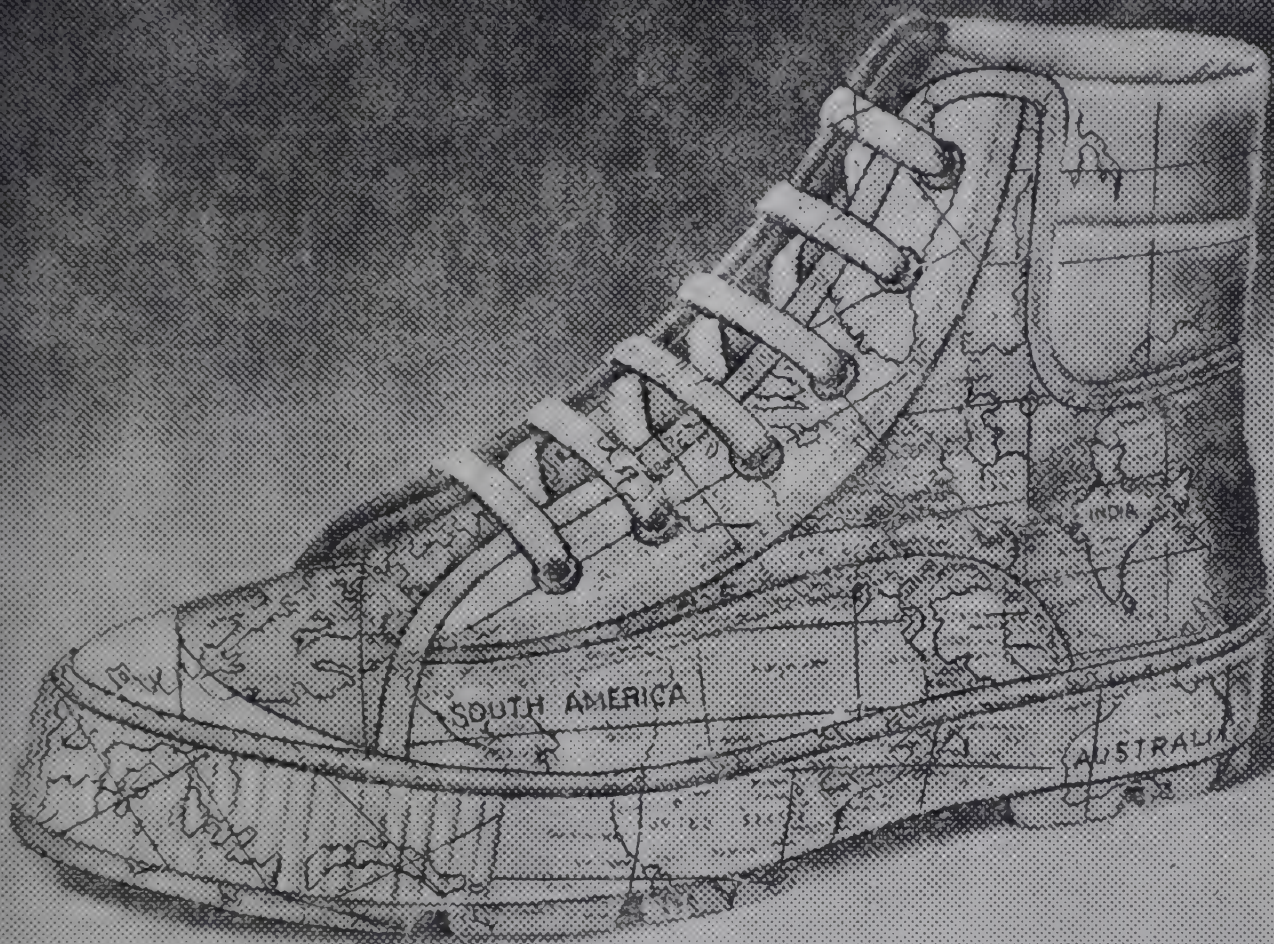
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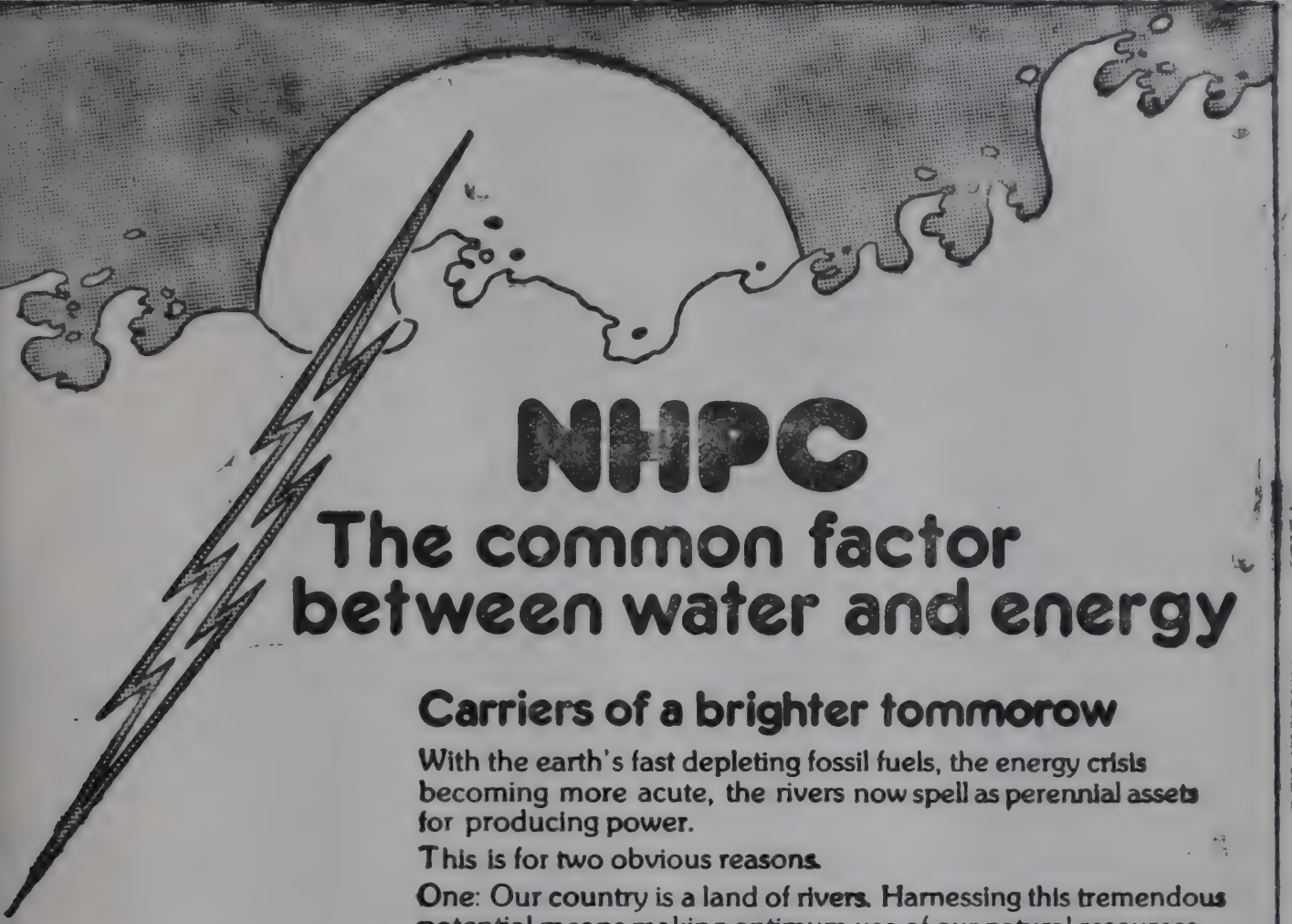
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And that's not all...

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● For the Silicon Project at Rourkela, MECON is designing and supplying an advanced 4-High Reversing Cold Rolling Mill. MECON is also designing decarburising and tandem annealing lines for the same project.

● At Bokaro Steel Plant—MECON is designing and supplying most

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MECON is also designing a number of high-capacity continuous strip processing lines for this steel plant.

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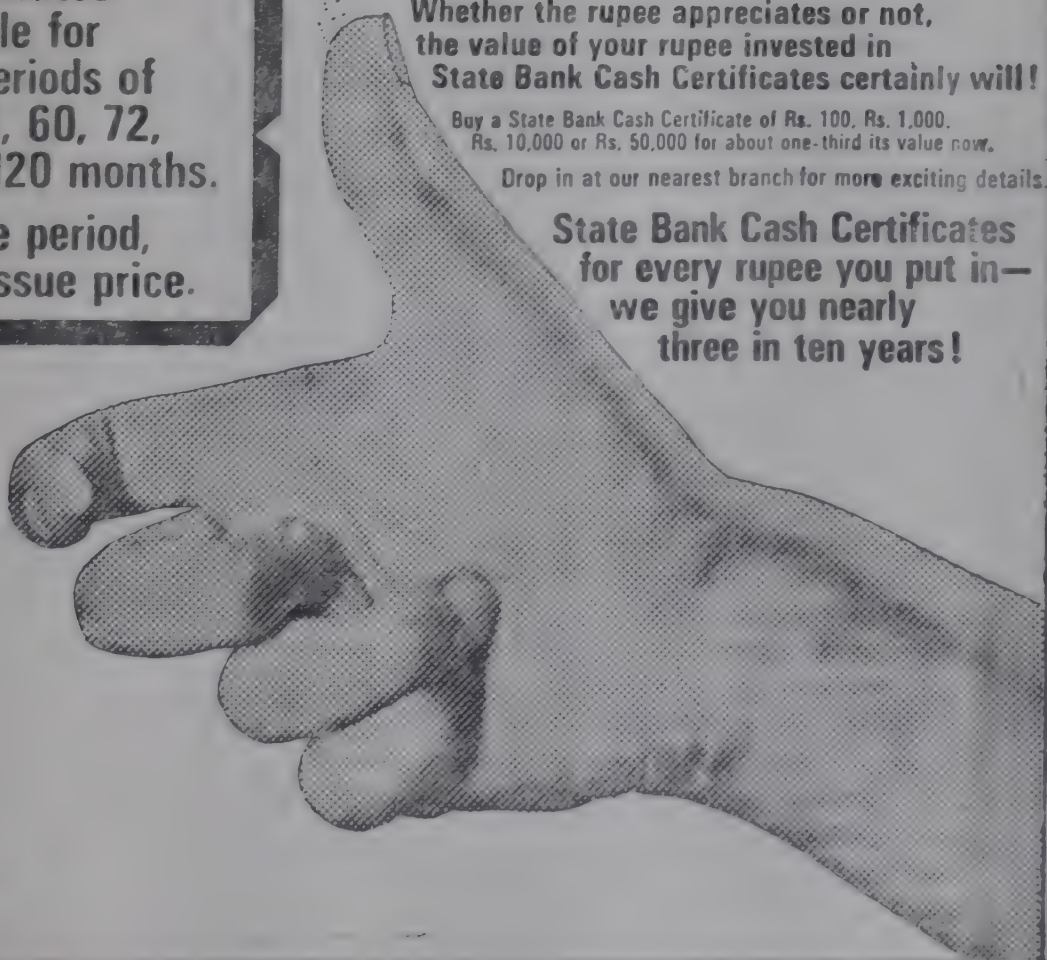
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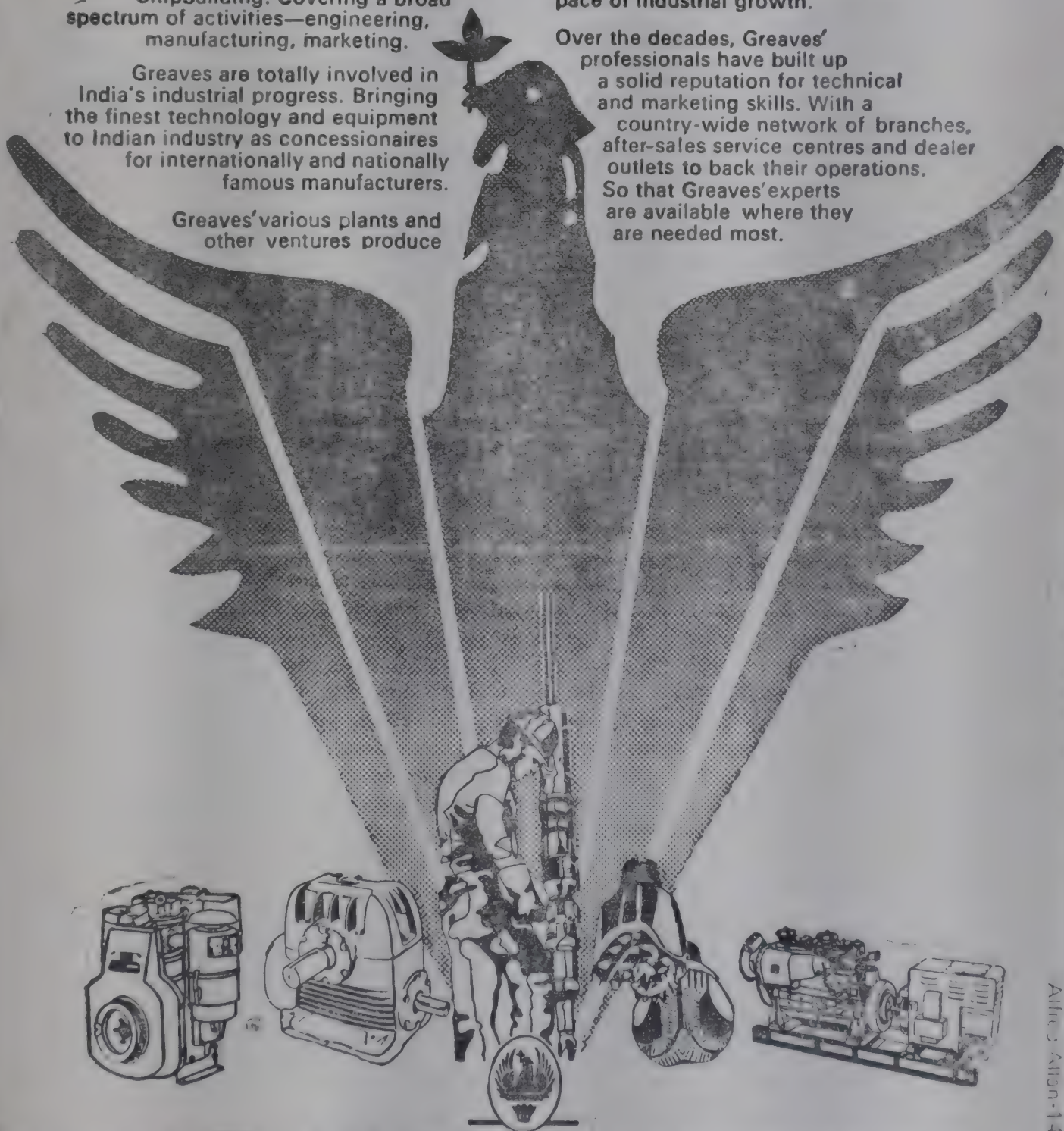
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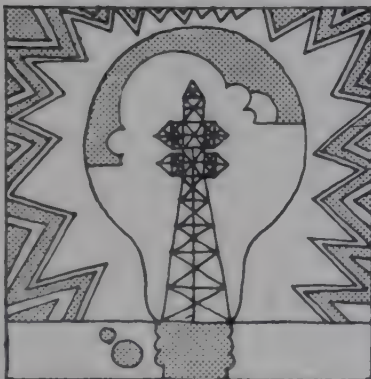
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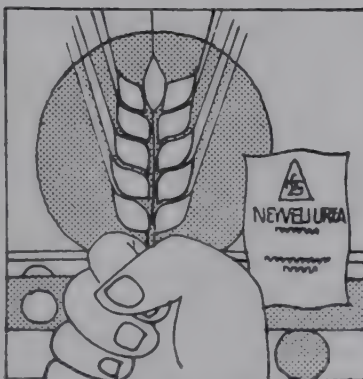
Our forefathers first progressed by using fire to cook and protect themselves. More recently, the immense expansion of industry that transformed the western world in the 18th century was initiated by the developments in using coal (coke) instead of charcoal in blast furnaces and forges. Today, Asia's largest open cast mine at Neyveli extracts lignite and puts it to energetic use - offering a wealth of versatile answers. From vital thermal power and fuel for homes and industry, to the fertilizer Urea with 46% rich nitrogen content. Also supplying China Clay, Fire Clay and Ball Clay for Ceramics, Refractories and Industries.



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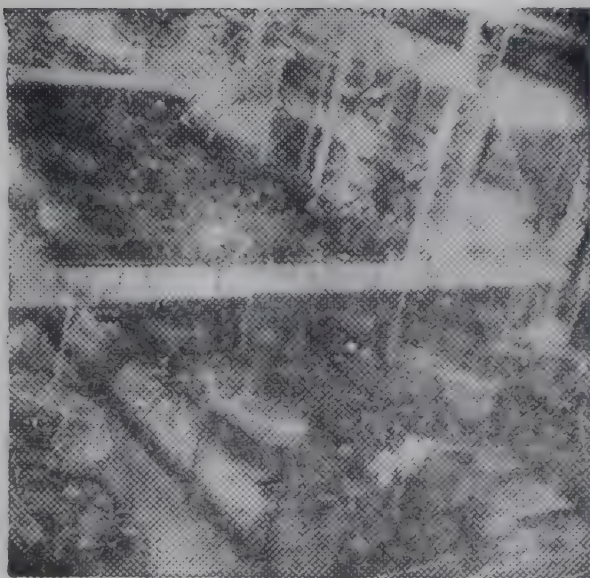
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Story of Copper production Clockwise; drilling underground; a section of the Concentrator; Smelter Control Room—a view of the tank house at the Refinery, wire bars of 99.9% purity ready for industrial use.

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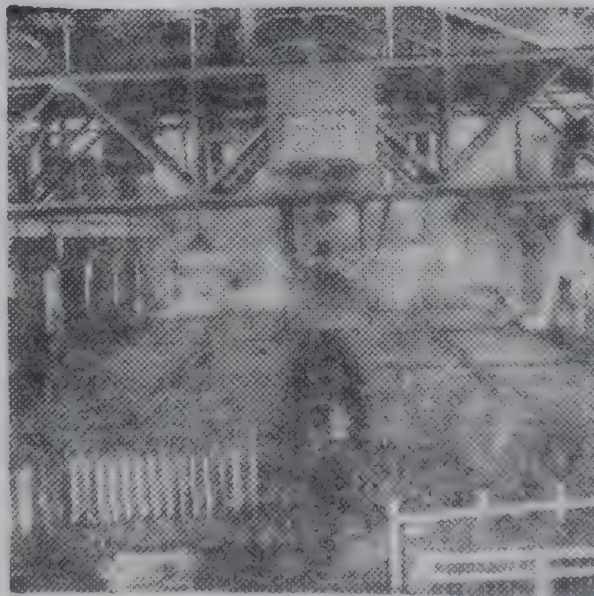
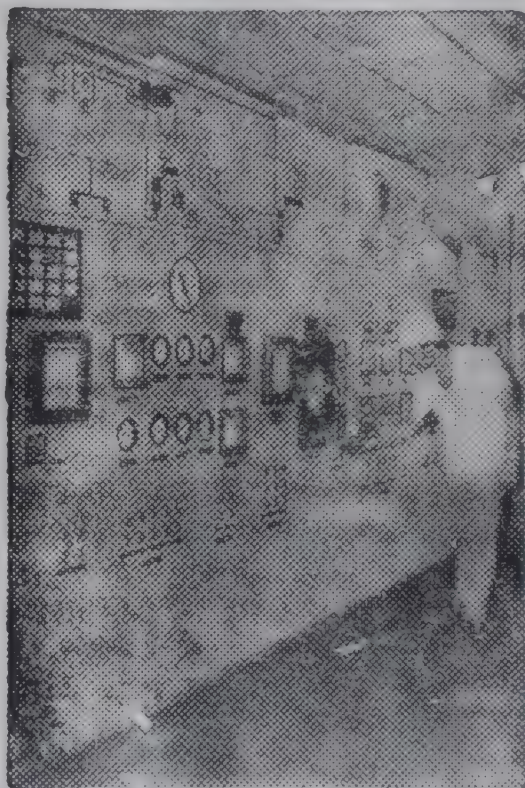
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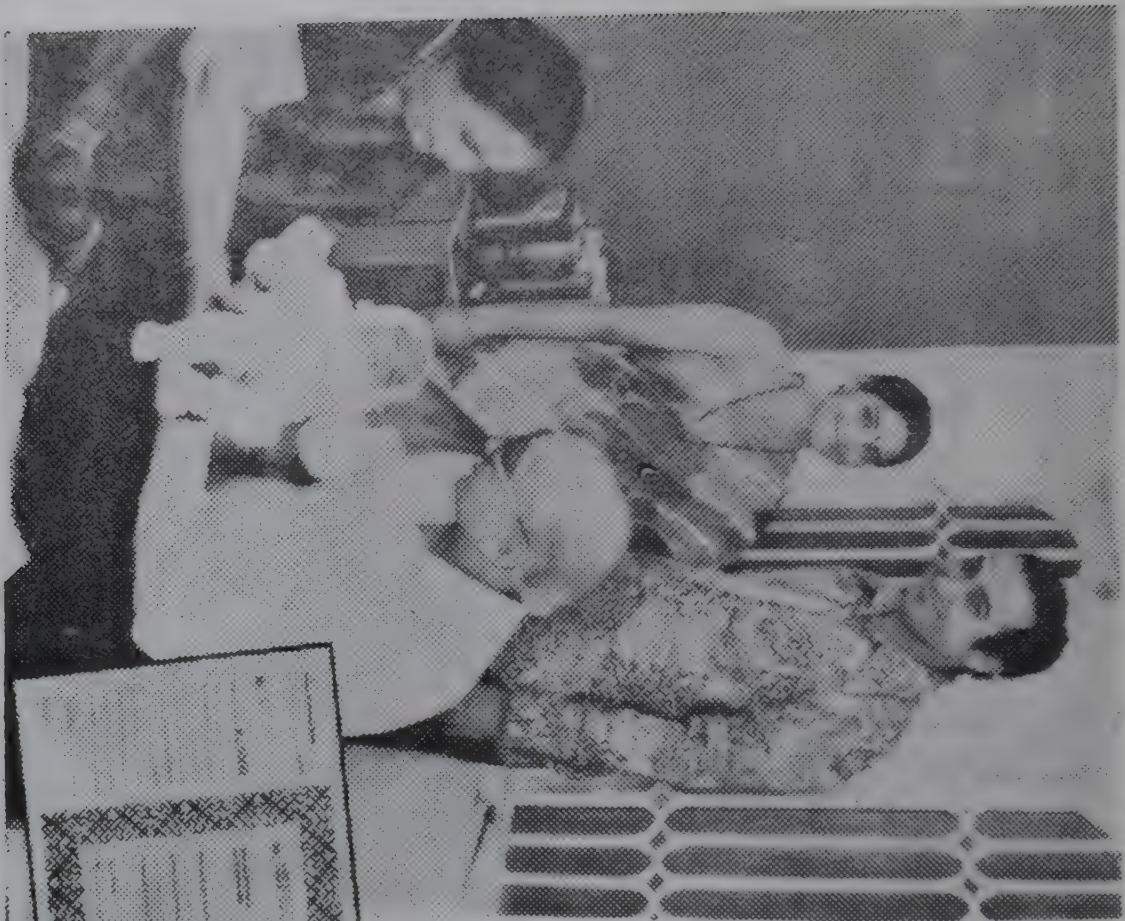
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quintal is met by the Government. This is the Consumer Subsidy which is channelled through the Corporation.

The Gain is Greater Than The Loss

A certain amount of unavoidable spillage and loss will naturally result from FCI's handling of many lakh tonnes of foodgrains while procuring, weighing, grading, transporting and distributing. Yet these losses have never been more than 1% of the total amount of foodgrains handled.

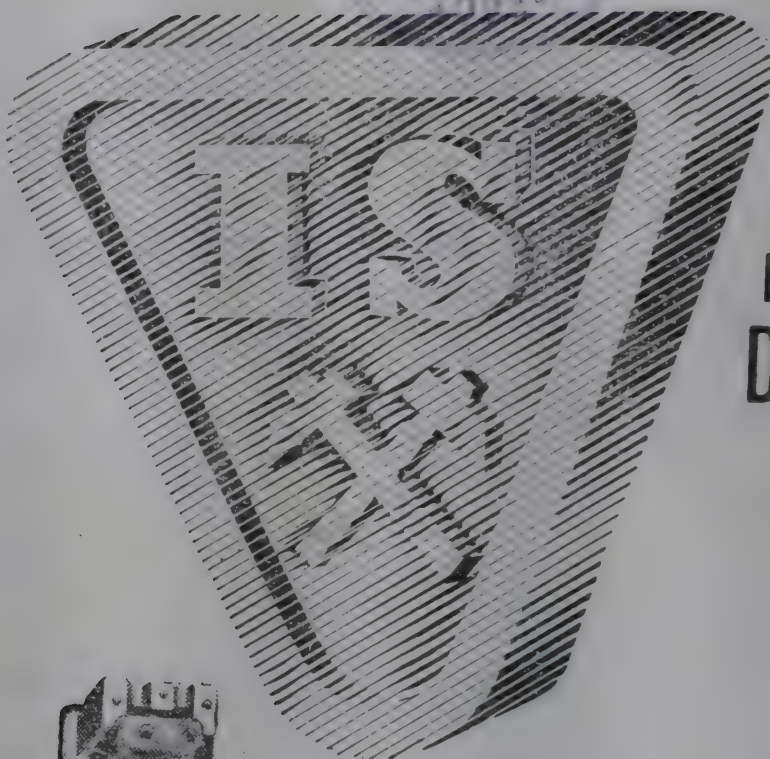
The Cost of Feeding A Nation

The expenses incurred by FCI in the handling of foodgrains for the entire country, are a mere 17% of acquisition cost. For all these various operations only 1% of the total cost is spent on administrative overheads.

Any operation as extensive and complex as FCI's will find itself faced with a number of problems. But the Corporation's constant endeavours are directed towards surmounting these problems and solving them in the best interest of the people.

Food Corporation of India

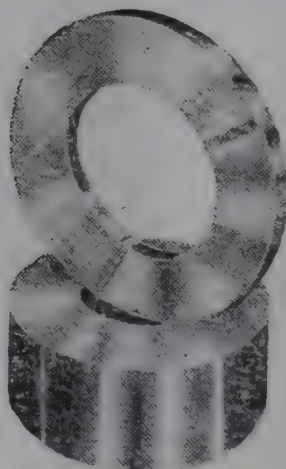
In the Service of the Nation



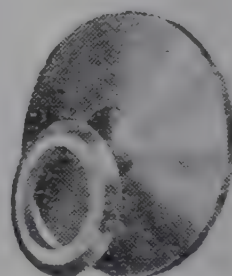
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